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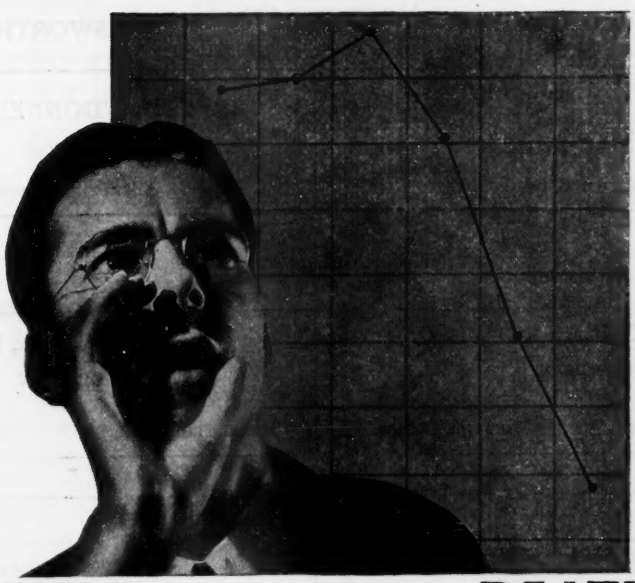

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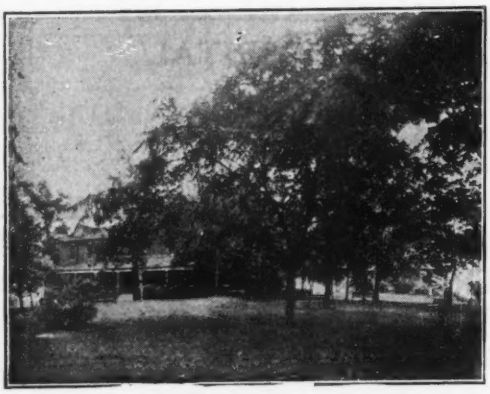

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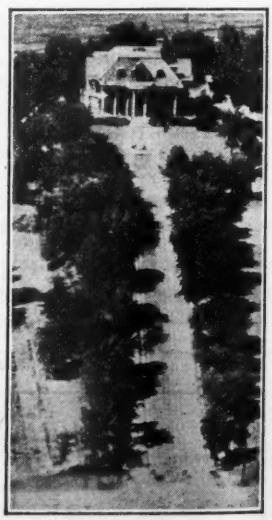

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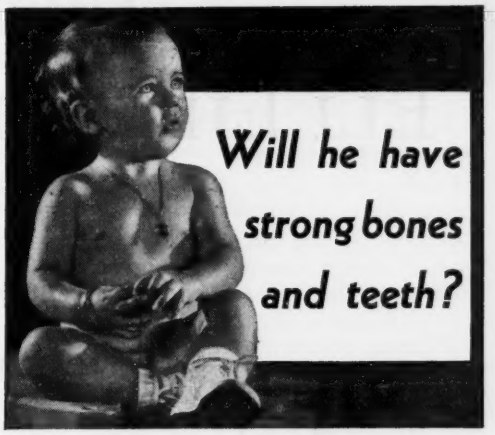

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Vol. XXXIV TOPEKA, KANSAS, OCTOBER, 1933 No. 10

ORIGINAL ARTICLES

RELATIONSHIP OF GENERAL PRACTICE TO INFANTILE PARALYSIS*

C. T. Hinshaw, M.D.
Wichita, Kansas

It is not the purpose of this paper to present a great mass of statistics, nor is it my privilege to tell you the results of an original investigation. I do wish to define briefly the present status of infantile paralysis in this state. It is apparent our local profession is not sufficiently concerned with this disease. It is, therefore, desirable to review the things considered to be of greatest importance in its early recognition and proper management. It is hoped this will provide a stimulus to an increased interest in infantile paralysis locally.

I wish to start with the premise that infantile paralysis is not a condition of interest or importance to just one branch or specialty of medicine; it is distinctly not just an orthopedic problem. Proper orthopedic handling is indispensible; but it constitutes only one important phase of the management of these cases. By the same token this disease is not just a matter for the neurologist, the internist, nor the pediatrist. I wish to emphasize this because the present attitude of the rank and file of the profession is to consider infantile paralysis as essentially a matter to be referred to the orthopedist. This is, in my opinion, not productive of the best results for the patient, which must be our first consideration.

It is a self-evident fact that the majority of cases of infantile paralysis have always and will continue to be seen first by the men who see sick babies. These men are not orthopedists; to them belong the greatest responsibility. It must be remembered that in most cases the early handling these patients receive has most to do with the result. It is a well established fact that the majority of cases in this state coming to paralysis have not been recognized as such until paralyzed. It is regrettable that in most of these cases there has been no attempt at early and careful handling by the use of accepted therapeutic measures. This condition, disconcerting though it is, does not merit censure of the individual physician. It serves to illustrate, however, the fact that to date little has been done in this section to stimulate interest on the part of the profession to the need of a more careful attitude in this.

We are in a constant state of unpreparedness. In time of epidemic, as in 1930, we are overcome by hysteria. Towns are practically blockaded. Normal trade and social intercourse are at a standstill because of the unreasoning fear that grips our communities. This is entirely unnecessary. It is, therefore, essential for the benefit of the whole community that the medical profession should be less apathetic. We should exercise our responsibility by doing the most possible for the disease victims; and by advising sensible quarantine regulations we should save the public a costly emotional spree.

With the hope that I can in a small measure point the way to a proper course, I wish to review briefly for you the more salient points of this disease. The early tentative diagnosis and treatment are of greatest importance. Controversy as to means of diagnosis or method of treatment is not within the scope of this paper. It is my desire rather to attract your attention to what I consider a problem of increasing importance.

Infantile paralysis, so-called, is a disease of comparatively recent origin. Early descriptions were made by Under-

*Read before the 75th annual meeting of the Kansas Medical Society at Lawrence, Kansas, May 2, 3 and 4, 1933.

wood in a volume on "Diseases of Children," published in 1784, and by Jerg (Shaw) in 1816. Somewhat later more complete descriptions were published by Heine in 1840, and by West in 1848. The first epidemic reported in this country was in Louisiana in 1841. George Colmer reported 10 cases in one community and ascribed the cause, as did most of the other early writers, to teething. Wickman described an epidemic in Norway in 1905, and gave us an excellent classification of the various types of this disease.

EPIDEMIOLOGY

It is noteworthy that infantile paralysis is more prevalent in the summer months; that it progresses in waves over our continent, and is scattered in its distribution. It quite often selects its victims in most isolated districts, and rarely occurs twice in the same family even though there are several young children, who are its chief victims. Different epidemics also vary in severity, which trait is of course not confined to this disease.

Case and death records are available for Kansas since 1908, when there were 100 cases recorded, with 33 deaths. In 1930 there were 694 cases with 64 deaths, a fatality record of 9 per cent. This is the largest number of cases with the smallest case fatality record in this state. From reports given, it is apparent that the disease is increasing in prevalence in all parts of the civilized world. Accurate figures are not available, but it is unquestioned that most of the cases in this state that come to paralysis have not been recognized as such until after the acute stage of the disease has passed and there is definite paralysis. This is, without doubt, in part due to the extreme isolation of some cases, and the reluctance to call a physician in other cases, and can only be corrected by educational measures.

ETIOLOGY AND BACTERIOLOGY

As indicated above infantile paralysis is essentially a disease of early childhood, but there are variations among epidemics in this respect. There is some question as to the causative agent and means of transmission of this disease. It is generally accepted that the causative factor is a filtrable virus, with its normal habitat in the nasopharyngeal mucous membrane. It has been established that there is a general distribution of healthy carriers of this virus similar in distribution to Klebs-Löffler carriers, and in the proportion of about 1 to 100. This virus is said to be resistant to freezing, but to be destroyed by a temperature of 45 degrees centigrade in one-half hour. Avenues of infection of the human body are thought to be most consistently the nasopharyngeal secretions, and probably the intestinal secretions. This has been demonstrated experimentally, but so far as the actual disease transmission among human beings is concerned, is rather a matter of deduction than of positive proof.

PATHOLOGY

Infantile paralysis is a generalized infection, the results of which are most marked in the nervous system. It has been given various names and classifications presumably descriptive of the particular group of cases that each writer has seen. The one thing common to these various groups is that a certain percentage, but not all of each group, has terminated in a flaccid paralysis. Neither can any of them fit another disease classification. I have used the term infantile paralysis consistently because it has been most widely used of all, and because it does about as well as any.

In 1905 Wickman observed an epidemic in Normay. At that time he classified the broad group of central nervous system conditions that were epidemic as belonging to infantile paralysis. Many authorities prefer to exclude parts of this group. That is a matter to be settled elsewhere. In the light of our present knowledge, his classification serves well as a guide in the management of any included cases. It is as follows:

1. Ordinary spinal paralysis—anterior poliomyelitis.
2. Progressive paralysis, usually ascending, less often descending—Landry's paralysis.
3. Bulbar paralysis—polioencephalitis of pons.
4. Acute encephalitis—giving spastic monoplegia or hemiplegia.
5. Ataxic type.

6. Meningitic type.
7. Polyneuritic (multiple neuritis) type.
8. Abortive type.

The first stage in the pathological process is an acute interstitial meningitis, usually most marked on the anterior surface of the spinal cord. On the cord itself there appears a hyperemia and a collection of round cells in the lymph spaces surrounding the vessels, as a result of which in many places the cells are so numerous that they press on the lumen of the vessel and obstruct the circulation. Minute or extensive hemorrhages occur, and there is extensive edema. The lumbar enlargement of the cord is most often affected, and the anterior horn more often than the posterior or the white matter. The reason for this process being more extensive in the anterior horn is because the blood supply there is more abundant. The damaging effects, therefore, are to be attributed: (1) To direct pressure on the nerve cells by hemorrhage, edema, and exudate; (2) to the anemia following the constriction of the blood vessels, which is probably the most general and important change, and (3) perhaps to a direct toxic action of the virus itself on the nerve cells.

On account of this pressure and anemia, the nerve cells may degenerate; yet if the exudate or hemorrhage or both are absorbed soon enough the cells may recover function. On the other hand if the unfavorable conditions have been prolonged, or are excessive, the changes in the nerve cells may go on to complete degeneration.

In this connection it is interesting to note a case reported by Toomey and Lipson.[1] This case was marked by a generalized muscular involvement, particularly of the lower extremities. It cleared up spontaneously in a few week's time except for a slight weakness in the left leg. Sometime later the patient returned to the same hospital with a fatal pneumonia and was posted. Examination showed marked destruction of the anterior horn cells on both sides; only a few cells remained. This is an excellent example of the disparity between the clinical picture during life and the pathological picture postmortem.

In addition to changes in the spinal cord, it is very important to note that the same sequence of change is found to a less degree in the brain, medulla, and pons. The posterior root ganglia are practically always involved by lesions similar to those in the cord itself, and in experimental pathology this is the first step in the process. The terminal stage in the pathological changes is represented by neuroglia tissue, which is analogous to fibrosis and scar tissue in other organs, and the cause of shrinking in severe cases. The destruction of spinal cells of course results in loss of function, but as indicated in the case above unless the destruction has been most extensive, muscle function will be in part at least spontaneously restored, or may become so by the effect (through muscle training) of new connections between other motor cells and muscles.

We must remember that infantile paralysis is a general infection, which affects organs throughout the body, but in which we have to the present time been concerned only as to the presence or to the extent of paralysis. This is a natural point of view, but it is not impossible that further studies and later epidemics may alter the picture in this respect.

SYMPTOMATOLOGY AND DIAGNOSIS

The early symptoms of infantile paralysis are those of any acute infection. There is usually a prodromal stage of a few days, sometimes followed by a short latent period. The first thing observed by the careful parent on the part of the child is an increased irritability. There is usually an accompanying malaise, often a sore throat and a cough. The first subjective symptom of significance is that of muscular tenderness, or aching which may be transient for one, two or three days, accompanied usually by headache. At the end of this time there is a definite localized muscle tenderness, and sometimes a single point in the vertebral column where pain is produced by pressure. Reflexes at this time may pass from hyperactive or normal to greatly diminished or absent within a few hours. By

this time there is some resistance of the neck to anterior flexion, and there is stiffness of the spine. If the patient is raised by the shoulders the head drops back and cannot be easily raised. This sign, according to Gordon,[2] is of particular importance in that it is not consistent with other infections of the central nervous system. The Kernig, Babinski and Brudzinski signs are usually not demonstrated. It seems advisable in any patient presenting the above signs and symptoms, malaise, headache, fever, muscle tenderness and "the spine sign" that a lumbar puncture should be done without delay for the purpose of spinal fluid cell count, and for relieving pressure in the spinal canal. By this time in an infantile paralysis there will be an increase in cell count varying from 40 or 50 to 2,000 cells per cubic mm. These cells are usually polys at first, but change rapidly to the small mononuclear type. The spinal fluid is, of course, under some increase in pressure, is clear, and without demonstrable organisms.

MANAGEMENT OF CASES

When a tentative diagnosis of infantile paralysis is made it is imperative that careful management be instituted at once. It is wise that aseptic precautions be taken to avoid possible transmission of the disease. We must admit, however, that we know very little about either the incubation period or the infectiousness of this disease. It is especially wise that unnecessary handling and confusion be avoided. Everything possible should be done to conserve the energy and mental stability of the patient. Possible complications should be considered and especial care taken to avoid them. Proper ventilation should insure a sufficient oxygen supply without exposure to drafts or to chilling. If there is any difficulty in breathing, its source should be found and corrected. Often the irrigation of an unemptied bowel, and at the same time a slight elevation of the head of the bed will do wonders in making a patient comfortable. This, of course, will not suffice when there is a respiratory paralysis. Catheterization should be done in the occasional cases where it is indicated.

It is, I hope, needless to say that a supply of fluids sufficient to prevent dehydration and to promote elimination are essential. If necessary these fluids should be given as saline infusions. Food should be sufficient at least to prevent acidosis. This can, of course, be supplied by the intravenous administration of glucose. When the patient is willing and able to take it, a fairly generous mixed diet should be supplied.

In the medical management of infantile paralysis all indications should, of course, be met symptomatically. It is my belief that proper supportive care as outlined is of extreme importance. Besides the general measures there is one cardinal principle of treatment that has a universal application and unqualified acceptance. I refer to the principle of absolute immobilization of any part or parts that are affected. When time is a factor of importance, this can be accomplished quite easily and quickly, though not most effectively, by the use of pillow splints. It is most important that immobilization be effected in order to prevent stretching of weakened muscles, and presumably also in order to prevent the stimulation of motor cells by contact of any kind.

As soon as practicable all affected parts should have a well padded plaster of paris cast applied. After a few days these casts should be bivalved and the affected parts inspected at frequent intervals, in order to check the progress of the disease, and in order that the skin may be properly cared for.

The use of blood serum from convalescent cases in preparalytic infantile paralysis is controversial. The sum of all the evidence does not seem to be favorable to its use. There are, however, a number of very enthusiastic supporters of this agent. Until it has been definitely established to be of no value, I believe it should be used in every case where there is an early diagnosis of infantile paralysis. In connection with this it is commonly considered that adult whole blood is as of much value, if any, as that from known cases. It also appears that its administration is as beneficial given intramuscularly as when given intrave-

nously. Certainly there is no harm connected with it. The important thing, in my opinion, is to give enough. From 200 to 400 cc. of the whole blood should be given in two or three doses. The interval between the doses that I have used has been from 12 to 36 hours.

In summary, I wish to emphasize the need in this section of a different attitude towards infantile paralysis. The general practitioner and the men doing rural practice, not the specialists in the larger towns, have seen in the past and will probably continue to see the majority of the cases when in the acute stage. It is of paramount importance that the profession be prepared to recognize these cases at the earliest possible date. Every physician who treats children should be prepared to care for the patient in the acute stage of the illness. Every possible supportive measure should be used to maintain the general physical well-being and morale. The all important principal of immediate immobilization should be carried out in the home or the local hospital. Lastly, I hope it is not expecting too much to urge the early and generous use of whole adult blood in these cases. Special care that may be indicated may well come months afterward, and with, I believe, greater promise of success.

1. James A. Toomey and Harry A. Lipson—American Journal of Diseases of Children. Vol. 41, No. 6.

2. J. E. Gordon—Journal American Medical Association. Vol. 96, No. 13.

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Kondremul (plain) and Kondremul with Phenolphthalein Not Acceptable for N.N.R.—The Council on Pharmacy and Chemistry reports that Kondremul (from chondrus and emulsion) is the coined, proprietary name, under which the E. L. Patch Company markets an emulsion stated to contain liquid petrolatum, 55 per cent, incorporated with Irish Moss (Chondrus crispus). Kondremul with phenolphthalein is stated to contain in addition 1.1 grain of phenolphthalein to each tablespoonful dose. The amounts of liquid petrolatum and of phenolphthalein are not declared on the labels or in the advertising submitted for the products. The Council was not convinced by the arguments submitted by the E. L. Patch Company to show that Kondremul is a more stable emulsion than others of its type, that it causes no "leakage" and that therefore the use of a coined name is justified. The Council declared Kondremul (plain) and Kondremul with Phenolphthalein unacceptable for New and Nonofficial Remedies because the amount of potent ingredient is not stated on the labels, because the claims for absence of "leakage" is unwarranted, and because the products have not sufficient originality to justify the use of the proprietary and uninforming name Kondremul (Jour. A.M.A., August 5, 1933, p. 447).

AN EVALUATION OF THE NORMAL*

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One of the most fascinating and intriguing facts of life, speaking from a social and esthetic point of view, is to be found in the seemingly endless variability and dissimilarity of things living. Life and change are synonymous terms, monotony is a product of abnormality rather than health. The subtle pattern which determines our individuality, always conceived and fashioned with meticulous care, the intricate mould, out of which we are cast, the infinitely detailed specifications for each and every unit of life, is used but a single time and then destroyed. Nature is ever prodigal and lavish in her architecture for she hates uniformity quite as much as she does a vacuum. No two human beings are strictly the same however much we may desire to pigeon hole or put them into identical compartments. A finger print identifies and defines a man quite as accurately as any serial number that appears on bank note or automobile. Life has ever evolved along these individualistic lines and quite certainly, we may be sure, it will continue to do so until the end of time.

Biologically and medically speaking, this fact is not in the least degree comforting for it introduces a very large measure of complexity and uncertainty into our scientific thinking. The fundamental truths of medical and biological science are infinitely more difficult to unravel because of the very large number of variables that are ever present. We speak of a normal individual when in reality there is no such single person or if there is, no one has yet been able to tell us exactly what his characteristics are.

In clinical medicine, normal people are assumed to be those that are in apparent good health—that is, they have no bothersome aches or pains and are able to go about their work in complete or comparative comfort. They have, in medical terminology, no presenting symptoms

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that require the services of a physician to correct or the tender mercies of a wife and indulgent family to cajole. It seems quite obvious that the great majority of so-called normal people cannot possibly be so considered. The fact is, I suspect, that rather than having a single standard of normality, there exists a normal zone or range for each one of us within which we function at our optimum and this optimum is an individual rather than collective property or attribute. Our clinically normal standards must today be looked upon as very crude and indefinite points of departure from which to measure abnormality. In no way can they be looked upon as fixed and invariable standards. The point at which pathology sets in in any disease process has not yet been determined with any real scientific accuracy. As a profession, we have been far too busy and interested in studying and recording the more obviously abnormal to make this possible. The normal has had no lure for us and until it has and until we devote ourselves as assidiously to its study as we now do to frank abnormality, we shall make but little, if any, progress in the more delicate and finer refinements of both diagnosis and therapy.

The large variability that exists in so-called normal values is strikingly brought out in the analysis of body fluids of healthy people. Instead of finding identical or very closely similar values for the various constituents present, one generally finds large and even striking variations obtaining. Normality in biology and medicine, as ordinarily considered, is a very wide avenue rather than a narrow lane. The glucose content in the blood of a healthy individual before breakfast varies from 85 to 125 mgm. per 100 cc. of blood. The cholesterol content from 140 to over 200 mgm. the fatty acids and other lipoids from some 250 to over 400 mgm. per 100 cc. of blood.

We are at present studying the oxidase content of normal and pathological blood as measured by the quantity of indophenol it produces. Here the variations within the normal differ as much as 300 per cent and yet for any single individual the oxidase content is remarkably constant, both as to diurnal and seasonal variations as well as in variations due to food and activity.

On the Pacific coast, Osgood and Haskins found normal hemoglobin values in men varying from 13.44 to 18.23 gms. per 100 cc. of blood with an average value of 15.76 gms. The normal red cell count in men in this part of the United States varies from 4.41 to 6.27 million red cells per cubic millimeter with an average value of 5.39 million red cells. In New Orleans, Wintrobe and Miller found hemoglobin values in normal men to vary from 13.4 to 17.85 gms. per 100 cc. of blood with average values to 15.87 gms. The same authors found the normal erythrocyte count to vary from 4.68 to 7.35 million cells with an average value of 5.85 million cells. In Detroit, Haden found normal hemoglobin values in young men to vary from 14.02 to 17.17 gms. with average values of 15.83 gms. The normal red cell count varied from 4.52 to 5.62 million red cells with average values of 5.08 million cells per 100 cc. of blood.

Rabinowitz, working at the Montreal General Hospital in Canada, found the hemoglobin value of single healthy individuals to vary as much as 26 per cent during 24 hours. Out of 20 normal individuals examined between 8 a.m. and 6 p.m. on a single day, 12 showed diurnal variations of over 10 per cent in their hemoglobin content. Dreyer, Bezett, and Pierce, working at Oxford University in England, found hemoglobin values in men and animals varying as much as 30 per cent during a 24 hour period. Smith, on the other hand, working at Mount Holyoke College, found no significant diurnal variation either in hemoglobin or in red cell counts. From this it might be argued that at South Hadley, Mass., it does not matter what time of day a patient is examined for a possible anemia. In Montreal or Oxford, it may matter a great deal for at certain hours of the day a given individual may be perfectly normal, at others he may be definitely anemic and at still others actually supernormal so far as hemoglobin values are concerned.

Some 30 years Haldane in England, set up a so-called normal hemoglobin

standard which has found wide acceptance in this country since that time. This standard was based upon the oxygen content of the blood of some 14 apparently normal men. The oxygen content of these men varied from 17.0 to 20.4 cc. per 100 cc. of blood which translated into hemoglobin values gives a variation from 12.64 to 15.17 gms. The standard or 100 per cent value Haldane set at 18.5 cc. of oxygen for corresponding to 13.76 gms. of hemoglobin.

In 1916, Williamson, working at the University of Illinois in Chicago, determined the hemoglobin value of over 900 men, women and children and proposed as a standard or 100 per cent hemoglobin value 16.8 gms. of hemoglobin per 100 cc. of blood. In 1922, Haden proposed a hemoglobin standard of 15.6 gms. per 100 cc. of blood based on the hemoglobin value and red cell count of some 50 normal individuals. In 1931, Price-Jones found the average hemoglobin value of 100 healthy students in London to be 14.5 gms. corresponding to an oxygen capacity of 19.5 cc. per 100 cc. of blood. He proposed that this value be made a standard and substituted for the lower Haldane figure of 18.5 cc. of oxygen. Price-Jones also examined the blood of 20 medical students at Harvard University and found that their average hemoglobin content was some 7 per cent higher on the Haldane scale than medical students in England. The 100 per cent value of Price-Jones is equal to 105 per cent on the older Haldane scale.

That the numerous hemoglobin standards now in use leads to considerable confusion is quite apparent. A 100 per cent individual on the Haldane scale becomes definitely anemic when evaluated on the basis of the Williamson standard. If the new Price-Jones standard were to be adopted in this country, most healthy Americans would become super normal men so far as hemoglobin is concerned with values ranging as high as 115 and 120 per cent. It has been proposed that all 100 per cent standards be eliminated and that hemoglobin values be recorded only in grams per 100 cc. of blood. This will help somewhat in bringing order out of the confusion we are in but the wide normal limits still remain and an average hemoglobin value will still have to be adopted in order to provide the nearest approach to clinical normality as that term is now used.

I have chosen examples representing variations within normal limits from the field of blood analysis because here fewer variables are probably involved than in such a body fluid as the urine and also because analytical methods in blood analysis have today been perfected to as great, or even greater extent, than in any other body fluid. The wide variations found in the data presented cannot be laid to faulty technique or poor selection for the work in each instance has been carefully checked by mature investigators. They represent real, rather than accidental, values and proclaim loudly the fact that in the present state of our knowledge there is no satisfactory normal value. What we now take for the normal, is an average figure representing a wide zone of variation and consisting of hundreds of individual variations. That these fluctuating values have a very real meaning even though at times they may be small seems very probable. We have recently come to appreciate the importance and value of extremely small amounts of various materials. The influence of tiny amounts of copper, manganese and other inorganic constituents in enhancing the oxidative capacity of iron in its organic combinations is now being appreciated. The importance and indispensable value of traces of vitamins in nutrition is today an accepted fact. We cannot ignore or dismiss the variations that obtain within the normal by the simple expedient of deriving a mean value from them and then deluding ourselves into thinking that this represents a true normality.

The facts are that there are two battle fronts and no man's land in humanity's endless struggle to maintain health. The quieter, but far more important of these has not yet been discovered or if it has its value has not been appreciated. It begins with the very first, and now altogether undetectable deviation from the

strictly normal and ends with the advent of the first symptom experienced by the patient. The second zone begins with the first appearance of definite symptom and ends with the death of the individual. As a profession, we now devote an overwhelmingly large proportion of our time and energies to the latter battle sector and practically none to the former. Victory in the less recognized zone is, to be sure, considerably less spectacular and yet for the patient, certainly far more important, for success here results in the conservation of the normal, in maintaining health rather than in regaining it, in keeping men and women free even from the beginning symptoms of disease, before recognizable pathology gets a foothold.

It is particularly in chronic disease that the time elapsing between the very first beginnings of abnormality and the first presenting symptoms may be of considerable duration. Let me illustrate this point by calling attention to the conditions that obtain in three well known disease entities—diabetes, pernicious anemia, and cancer.

In diabetes, although the exact etiology of this disease may not yet be certain, we now appreciate, quite fully, that the hormone insulin, produced chiefly by the islet tissue of the pancreas, is not furnished to the tissue juices in sufficient quantity to permit the normal oxidation of the digested and absorbed carbohydrate food stuffs and as a consequence glucose "spills" over into the urine after a certain concentration in the blood has been reached. No one really believes that this happens all at once, that is that the insulin producing tissue collapses all of a sudden and ceases to function in a normal manner. The appearance of a definite and persistent hyper-glycemia in a patient represents the end results and not the beginnings of months and probably years of abuse to certain endocrine tissue cells. The early detection of this abuse would in all probability lead automatically to the restoration of normal functioning and entirely prevent the appearance of frank and open disease. An intensive study of blood sugar levels, amounts of reducing sugars in the urine and other, now unknown, variations within the normal, would certainly yield data that could be applied to the prevention of this disorder.

Pernicious anemia has within a comparatively few years been transferred from what seemed to amount virtually to a malignancy of the blood to a deficiency disease yielding definitely to comparatively simple therapeutic procedures. Here again it is very improbable that the so-called intriusic heat labile fraction found in the gastric juice which reacts with the extriusic factor found in food stuffs suddenly gives out and produces this disease. The probabilities are that the cells producing the intriusic factor have been very gradually damaged for weeks or months, or even longer intervals of time. The task of detecting a deficiency in either the extrinsic or intrinsic factor in health is no greater than their appreciation after definite disease has set in but the results are tremendously more important. A more complete knowledge of the composition of normal gastric juice may in the future give us the data necessary to anticipate this condition rather than treat it.

The etiology of carcinoma still remains an unsolved mystery although it sometimes seems that the germ origin of cancer is making greater headway in explaining this condition than are metabolic or other theories. Two facts, however, stand out prominently in the production of this disease. They are chronic irritation and hereditary or other predisposition of the cells involved. A suitable "soil" seems to be very necessary for without it no amount of chronic irritation seems to produce malignancy. It seems certain that the prevention of cancer would be an easier matter to solve, than its cure, and yet remarkably little work has been done in determining the differences between so-called good or bad cancer "soil." The problem again becomes one of intensive study of what constitutes normal cell vitality. The elucidation of this problem must precede all real advice on the question of the prevention of cancer and cancer prevention should, it seems, receive as much, if not

more, study and consideration as its cure. Some time ago one of America's well known physicians when asked for advice on how to live long, promptly replied, "Why get yourself some long life parents!" One might equally well answer the question, "How can I avoid cancer?" by saying, "Get yourself some non-cancerous forebearers." These answers are true enough but as scientific and professional men we must blush at the state of ignorance which they reveal. If only one-half of our energies had been spent on study leading to correcting, and maintaining the normal rather than devoting it all to the cure of the abnormal our knowledge would be in a far more satisfactory state than it now is. However, not until the rank and file of the profession appreciate the importance of such study and demand research of this character will progress in the advance of maintaining the normal go forward with the vigor it should.

Victory in the second zone, that is after the first symptom has appeared can lead at best only to clinical cure of disease, for we are now dealing with definite lesion, evident pathology, frank and open disease, and our highest hopes and professional aspirations inevitably concern themselves with skill in detecting early symptoms with judgment in diagnosis and with success in treatment. Diagnostic and therapeutic skill are by no means undesirable professional accomplishments for we may always be certain that a large part of the population will neglect to take care of itself. But let us not forget that there is even greater and more urgent need for professional skill in matters that transcend repair. Let us, by all means, go on discovering and recording new symptom complexes, refining diagnosis, improving therapy, publishing each strange and record breaking departure within the abnormal but let us also earnestly, and in large numbers, set about to study the so-called normal individual. Only by an intensive and painstaking study of the slight deviations that obtain within the normal zone, can we ever hope to anticipate and correct disease rather than treat it. Professional advice that anticipates disease must become, one of our finest specialities, the largest and most important of them all. It should eventually become the most lucrative source of income for the physician. I hope that we may some day see a postgraduate course in our medical schools based on an M.D. degree leading to the Degree of Doctor of Health and that to the men so-trained will be particularly intrusted the very important task of conserving the normal rather than treating the abnormal. The periodic examination now given annually or oftener to thousands of our citizens in this country is a good beginning along these lines although we can hardly say that the professions "stocks" a good periodic examination at the present time. The reason for this is the methods now used in physical and laboratory diagnosis are capable only of detecting an abnormality gross enough to be accompanied by or very shortly to produce definite symptoms in the patient. Inspection, percussion, palpation, auscultation, x-ray, and even laboratory examination of body fluids, now aim at no greater refinements than detecting the outer limits of the very broad avenue of normality. We shall sell the public many more periodic examinations when we know more about the normal than we now do, when we can evaluate more truly and interpret the variations that obtain within this zone.

To many medical men today it seems nothing less than sheer folly to suggest that the profession should change its century old habits of curing disease only and devote part of its time to conserving normal health. I am not forgetting that we have made tremendous strides in public health measures. Iodine therapy now so successfully used in preventing adolescent goitre has been a public blessing in many sections of our country. In acute contagious disease vaccine and other forms of therapy have contributed both to the conservation of health and the cure of disease. Speaking broadly, however, preventive medicine, as we know it today, concerns itself with community or public rather than with individual health, and does so mainly by keeping the highways and byways along which we travel free from large doses of germ life and

in this way prevents disease from gaining a foothold. This of course is very valuable and should be continued. Public health activity has, however, very little to do with the practice of the average physician; if anything it robs him of carrying on to the full the art and science to which he has devoted so many years in preparation. The conservation and maintenance of individual health is quite another matter. We are not at present informed or equipped to do much work along this line but once we are prepared our services will be far more in demand than they are at the present time, for we shall then include the entire population in our practice, we shall have not only an ailing minority but a healthy majority to treat and counsel. More time, more professional skill and more scientific counsel will be needed to maintain health than to cure disease, but we may feel certain that an enlightened public will willingly pay for this extra service. The individual physician will gain, not only financial remuneration but also in professional satisfaction in giving this type of service.

As a concluding remark I may perhaps be permitted to point out that it seems quite certain that if we, as a profession, do not more vigorously attack the problem of maintenance and conservation of normal health by way of systematic investigation and research but continue to devote ourselves single mindedly, or almost so, to the sole task of correcting the abnormal that this problem will find its champions elsewhere and its solution will go forward outside the ranks of the profession. The problems of health and disease are after all inextricably woven into each other and cannot be separately considered. Disease cannot be more adequately or comprehensively defined than as "negative health" and the paramount interest of all medical endeavor must always envision and contain the ideal of health as its controlling motive. The profession of medicine should furnish not only the scientific leadership but maintain the permanent custody of both the problems of health and of disease. It must indeed do this or lose the high prestige which it now enjoys. As our scientific knowledge advances, as public health measures increase in extent and efficiency, disease will inevitably decrease in frequency and importance. If our sole professional concern in the future is placed in the etiology and therapeusis of disease processes, we can only look forward to a slow and lingering professional *decline*. With conservation and maintenance of health as guiding principles the profession will gird itself with a positive ideal, broad in its scope, valuable in its content, and well nigh inexhaustable in the amount of service required.

And finally if there be any glory and honor and distinction due the profession for unselfish service in subduing and conquering the "spectre of disease" how much greater will be the thanks and plaudits of mankind for every practical and scientific advance that has for its goal the conservation of the normal to the end that there need be no restoration or repair of the abnormal.

The Western Medical Corporation.—The Western Medical Corporation is a later name for what was earlier known as the Western Medical Association. The concern sells on the mail-order plan what the public is led to believe is a cure for epilepsy. For some years it did business from 137-143 W. 62nd St., Chicago; recently (June, 1933) it moved to 415-423 W. 39th St., Chicago. The Western Medical Association was the subject of an article in The Journal, January 28, 1922. An important part of the advertising ballyhoo of the Western Medical Corporation is a six-page autobiographical puff of Harry L. James, M.D., vice president of the corporation and "directing physician." Dr. James would have the public believe that he is peculiarly well qualified to treat cases of epilepsy. In his autobiography, Dr. James says to the prospective victim that he is sending the advertising matter to him "with the thought that perhaps there is no physician near you who is thoroughly acquainted with the most up-to-date methods of treating epilepsy attacks." In the first article published on this concern the A.M.A. Chemical Laboratory reported that the tablets furnished at that time came in three boxes labeled, respectively, A, B and C. Box A was found to contain what were essentially one grain tablets of phenobarbital (luminal). Box B contained tablets that had the general characteristics of those unscientific mixtures of pepsin, pancreatin, etc., vaguely described as "digestive tablets." Box C contained a laxative—tablets that responded to tests for emodin-bearing drugs and aloin. In other words, this treatment is essentially the administration of phenobarbital to persons Dr. James never sees and sent out in a secret mixture on the mail-order plan for the self-treatment of a serious condition—epilepsy. (Jour. A.M.A., August 5, 1933, p. 463).

URINARY CALCULI*

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I have chosen this subject because of the broadness of its scope. It is not my intention to deal with it in all its phases, but I shall try to bring out some of the salient points as I have met them and call your attention to the work of some of our leading urologists.

The etiology of stone formation still remains a question for study. Bumpus states that formation of urinary calculi has been attributed to whatever phase of scientific endeavor was at the time popular. This has been and is even yet true. There seems to be no one factor which can be said to be the causative one. The four most commonly accepted causes of stone formation, no one of which can produce them alone are: (1) a colloidal dispersion; (2) a urinary stasis; (3) a vitamin deficiency, and (4) bacterial. The fourth or bacterial factor has not been proven conclusively to be in any way a causative factor yet it is known that distant foci as bad tonsils, bad teeth, infected sinuses, and possibly many other foci of infection do have a decided effect on the progress of many of the urinary affections. So far I have not discovered any record of a clump of bacteria having been found that could be called a nucleus of a stone, as is said to be found at times in the formation of biliary calculi. When two or more of these factors are at work at the same time we get stone formation which may be of very short duration.

A patient was operated and a small stone removed from the uretero-pelvic junction. Some days later a roentgenogram was made, everything was clear and no sign of stone could be seen. Some three months later there was apparent trouble and another *x*-ray was made. This one showed a stone much larger than the one removed only a short time before. Hence, we see that stones may be of some considerable size and yet be of rather recent formation.

*Read before the meeting of the Montgomery County Medical Society at Caney, Kansas, October 14, 1932.

The term colloidal dispersion is a rather technical term and will have to have some degree of explanation: *First:* Crystalloids which normally go into a molecular solution in water, may under certain conditions, exist suspended in a fluid as small particles of varying sizes, yet always larger than a molecule. This state of solution in larger particles than molecules is the so-called colloidal dispersion and is always due to some outside influence. *Second:* True colloids are those which always exist in fluids in a state of colloidal dispersion and are never in a state of molecular solution. This quality is inherent in the substances and may be altered by external influences but is not dependent on their action.

It has been determined that some of the urinary constituents are normally in a state of colloidal suspension. This seems to be due to the protective action of the true colloids of the urine. These are present in all urines and are not albuminous. The more soluble the constituents of the urine the less active are these colloids. In view of these conditions as have been worked out it seems that when a solution containing a crystalloid urinary constituent and a very small amount of a colloid are precipitated simultaneously a mass is formed. The colloid forms a sort of clot and holds the crystalloids within its make-up.

If a stone should be formed of a true agglutination of a temporary colloid, then there should be the possibility of so diluting and treating the urine in such a way as to dissolve these stones. Further comment along these lines is not of much value to the general practitioner, but must be worked out by research workers.

The age at which stone formation may occur appears to extend from the cradle to the grave, but not in the same ratio along the way. In a series of 6,000 cases there were 2,334 below the age of 10 years; 1,079, 10 to 20 years; 513 from 20 to 30; 353 from 30 to 40; then begins a slight rise in occurrence as we see 422 from 40 to 50 years; 536 from 50 to 60; 587 from 60 to 70; then a decline to 201

from 70 to 80 years, and only 17 from 80 to 90. Of course these last figures are influenced by the fact that there are not so many persons who ever reach these ages. Because of imbalanced diet and the absolute lack of proper diet we see so much of this trouble among the children of the poor. Also we see it among the older people especially in men who eat much and do not take a proper amount of exercise. Stones among men are about as common among the wealthy as among the poor. Urinary stasis from the senile hypertrophy of the elderly man with its consequent accompanying cystitis is prone to stone formation.

Oxalate of lime stones are often seen in those who eat a great deal of fruits, especially among the inhabitants of southern California and in Florida where many oranges and other tropical or semi-tropical fruits are grown. Phosphatic stones are most commonly seen as incrustations on foreign bodies as in the bladder. Residual urine as from an enlarged prostate or strictured urethra favors alkalinity of the urine and thus predisposes to stone formation. Small crystals or the so-called urinary gravel may be held in the bladder and thus become nuclei for the growth of vesicle calculi.

The majority of urinary calculi have their beginning in the kidney pelvis or the calices. Because of more or less irritation caused by these stones, even though they be very, very small, there soon becomes an infected condition through the blood stream, the lymphatics, or possibly by retrograde ascension along the ureter. Rosenow reports experiments made by taking material from the urine of patients suffering with urinary calculi and the usual accompanying infection and implanting it into the teeth of healthy animals and producing stone formation in the kidneys of the animals. Hence we can see the necessity of looking well to the eradication of all areas of focal infection so far as is possible.

Taking into consideration the anatomy of the ureter there are three sites of lessened caliber along its course at which points arrest may occur in the descent of the stone in its passage to or toward the bladder: (1) The narrowing of the lumen about an inch and one-half from the kidney; (2) near the crest of the ilium where the ureter crosses the iliac vessels, and (3) at the uretero-cystic junction.

SYMPTOMATOLOGY

In calculi within the calices or pelvis of the kidney the pain is usually well localized to one side as the great majority of cases are unilateral. The most important symptom is *pain.* This may be a more or less colicky pain or it may be a constant backache. It is most commonly felt in the loin or region between the last rib and the crest of the ilium. The sharper pains may radiate to the groin, into the genital region as to the end of the penis in the male and into the labia in the female. It may extend down the leg to the knee and even on down into the foot. Sudden movements or overexertion may bring on an attack. In some cases the pain may be felt over the entire lower quadrant, in the stomach, and even radiate to the opposite side and the patient complain of severe pain on the well side and none in the affected side. This was demonstrated clearly in my office only recently in a patient complaining of a right-sided pleurisy when the *x*-ray showed a typical stone on the left.

These are the painful conditions which are sometimes mistaken for pleurisy, appendicitis, biliary colic, acute indigestion, and even salpingitis. The typical pains are about as follows: Sudden severe pain in the region of the kidney, very shortly extending forward and downward to the groin, genitalia, and even down the leg. I have known the testicle to be drawn up into the inguinal canal. I saw a lady once whose most severe pain was in the heel. Nausea and vomiting are almost always the rule, hence the often diagnosed gastric trouble. The crises of renal colic are not always due to calculi; they may follow even vesicle catheterization, and more often ureteral catheterization, as did a case of mine only a few months ago. A patient was referred to me for cystoscopic examination and a pyelogram. The cystoscopic was done and a flat *x*-ray made preparatory to the pye-

logram. Our picture showed a fracture of the twelfth rib and the transverse processes, on that side, of the upper two lumbar vertebrae. This man had very severe colicky pains and cystitis following the cystoscopy. Let me say right here that it is always well to be as careful in even passing the usual rubber catheters and have all things as nearly aseptic as possible for a cystitis may develop even with the most careful managed procedure.

Hematuria is another symptom of stone somewhere along the urinary tract. It may not always mean there is definitely a stone present as it may be from trauma from other causes. This hemorrhage may be continuous or it may be intermittent; it may be so profuse as to render the urine to appear to the naked eye as if it were all blood, yet it may be there are so few red cells as to not be noticed except through use of the microscope. The passage of gravel or the so-called kidney sand is often a symptom. Very small stones are formed in the kidney and are expelled before they become of any particularly appreciable size; however, these may be rather disagreeable in their passage because of the possible roughened edges.

Some small stones may cause much pain and colic for many weeks before they are finally passed into the bladder; some are never passed and require surgical interference for their removal. If a stone in its passage toward the bladder becomes impacted in the ureter and completely obstructs the outflow of urine from the kidney on that side there may be complete destruction of that kidney with a reflex anuria in the other kidney; consequently, a complete anuria with consequent uremia and death of the patient may result. On the other hand if the blocking is but partial there may be a hydronephrosis, hydroureter, a pyelitis, a pyelonephritis, or most any other infective condition of the kidney. Infection is a frequent complication with urinary calculi. Usually it comes on late in the course of the trouble but it may be early and even before the stone formation, or there may even be an infected condition such as a pyelitis without stone. We may also have a pyuria and no fever or other evidence of sepsis.

Stones passing toward the bladder are most often arrested for longest periods of time at the uretero-cystic junction and when here are most apt to call for surgical removal. This may be done by use of ureteral instruments through the cystoscope, yet at times these require a major operation. If the blocking is complete or so much obstructs the flow of urine that the kidney is seen to be suffering distention and lack of ability to function properly then a major operation extra-peritoneally must be done at an early stage.

The diagnosis of ureteral stone seems to give most trouble. The same symptoms—renal colic, nausea and vomiting, possible hematuria, chills and fever, may be caused by many other conditions such as kinking of the ureter, ptosis of the kidney, ureteral stricture, aberrant blood vessel causing extra-ureteral pressure as might also tumors. As I have stated previously, a large percentage of these cases have already been operated for appendicitis, ovarian or tubal troubles, and even for gallbladder affections. They have also been mistaken for pleurisy.

To cinch the diagnosis of ureteral stone the cystoscope and *x*-ray are absolutely necessary and indispensable. Here we must be careful again for in a very small percentage of cases we may encounter a uric acid stone which does not cast a shadow or we may mistake calcified glands or phleboliths for stone; usually the lack of proximity to the opaque catheter will rule these out. If we have other indication of stone and no shadow it is well to examine carefully segregated specimens of urine for uric acid crystals.

The effects of an ureteral stone may be varied. If the stone is not so large as to completely obstruct the flow of urine, it may be the cause of a hydronephrosis, and consequent destruction of kidney tissue. If it does completely shut off the passage of urine from that kidney it soon causes destruction of the kidney because of the consequent unilateral anuria which may and has been known to cause an

acute total anuria with subsequent death when the opposite kidney was not previously affected. Sometimes stones become imbedded in the ureteral wall and lie seemingly dormant for some weeks or months and give no particular trouble other than causing the development of a protective tissue which when the stone finally becomes dislodged and removed tends to a cicatricial contraction which may cause stricture.

The treatment of stone in the urinary tract may consist of one or all of three different steps. First, is the expectant type of treatment. This consists of drinking large quantities of water and thus helping nature to flush out the offending stone. When by *x*-ray examination, we know there are stones in the kidney either in the pelvis or calices, we may as is often done by Bransford Lewis of St. Louis, use a sort of succussion procedure and thus get the stone or stones to enter the ureter and sooner or later the bladder and finally be expelled per urethram.

Second, we may greatly assist by the use of the cystoscope and ureteral instrumentation. As much as 80 to 90 per cent of all stones may be made to pass by these two methods. Ureteral catheters of varying sizes such as the Garcea, some of the various stone dislodgers, or even the mechanical dilator of Bransford Lewis. At times it is well to leave one or more catheters in the ureter for even as much as 48 hours. This method gives quickest relief from pain and secures free drainage from the kidney, allows of pelvic lavage and the instillation of lubricants about the stone to facilitate its passage. There are many instruments on the market for grasping and removing or even crushing a stone in the ureter, but these do not appeal to me. It would seem logical that the possible damage capable of being done to the ureter might far outweigh the occasional removal or crushing of a stone, when, as stated before, 80 to 90 per cent may be made to pass.

Third, we may have to resort to major surgical means. This is always done through extraperitoneal incisions save at times when the stone may be firmly impacted within the cystic wall and cannot be dislodged. It may become necessary to make an incision in the ureteral meatus and thus at times enable us to extract the stone through the cystoscope, but in all such procedures one must be mindful of the fact we may encounter severe hemorrhage.

CONCLUSIONS

(1) A correct diagnosis of urinary calculi may be made in about 98 per cent of cases provided one uses the latest methods.

(2) Approximately 80 to 90 per cent of all stones may be made to pass by use of the first two procedures mentioned above.

(3) The too frequent or indiscriminate use of metal instruments in the ureter is not only not advised but is condemned as being prolific of much possible harm.

(4) Early operation for impacted stones in the ureter which, after reasonable cystoscopic manipulations have failed to cause any dislodgment or free drainage from the kidney on that side, or a stone in a solitary ureter, or in a person who tolerates the cystoscopic manipulations badly.

(5) The site of operation depends upon the point of arrest of the stone, but all operative procedures are done if possible extraperitoneally.

(6) The idea of the bare possibility of a solvent for at least some of the stone formations should be kept in mind.

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Intravenous Injections—Loeser's Products.—Advertising which has been distributed on the intravenous use of hydrochloric acid is the commercial propaganda of the Loeser Laboratory, whose exploitation of unscientific intravenous medicaments has been previously noted. In the "literature" on the intravenous use of hydrochloric acid, the testimonials for the use of the acid mention nearly all the disorders known to medicine as being benefited, without adequate evidence of any kind. The alleged relationship between causes of disease and therapeutic effects is an earmark of pure invention. Contrary to the implications in this propaganda, the intravenous use of hydrochloric acid is far from harmless: the acidity of the solution advocated is more than a million times that of the blood. Physicians should unreservedly condemn the advocacy of such crude and dangerous experimentation. (Jour. A.M.A., August 12, 1933, p. 544.)

GEOGRAPHIC AND EXPERIMENTAL STUDIES ON THE ETIOLOGY OF GOITER

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In most textbooks, endemic goiter is treated as a morphological and physiological entity which is preeminently associated with mountainous regions, and the thyroid function in endemic goiter—if disturbed at all—is regarded as deficient, causing more or less severe symptoms of hypothyroidism or even cretinism. This dogmatic conception of endemic goiter still predominated at the International Goiter Conference in Bern, 1927; the principal speakers pointed out that hyperthyroidism and Graves' disease have nothing to do with endemic goiter and must not enter into the discussion.

Only few investigators—Feldmann, Josselin de Jong and Holst—described at this conference an entirely different type of endemic goiter which they had observed on the North German coast, in Holland and Norway. Goiters of these lowlands were rich in colloid, in contradistinction to the mountainous forms which have very small acini with only scant colloid. In level regions, congenital goiter was not observed, while in Switzerland and other regions of severe endemicity, most children are born with considerably enlarged thyroids. Furthermore, cretinism did not occur in the northern parts of Europe; on the contrary, their goiter patients often presented signs of an increased thyroid function, namely toxic and exophthalmic goiter.

PECULIARITIES OF THE NORTH AMERICAN GOITER

There is a deplorable lack of information about the character of goiter in the different parts of North America. From my own observations in Kansas and from the few data which are available from other districts of the United States, it seems that the morphology and physiology of the North American goiter is rather uniform and does not vary according to the different localities, as does the European goiter. The goiters which are seen in Kansas resemble very much the ones typical for European level regions and they are entirely different from the classical endemic goiter, as observed in Switzerland, in Himalyan India or the Pyrenees.

From the morphological point of view, the greatest difference between the goiter in plains and that of mountainous countries lies in the size of the acini and the colloid content. In high altitudes, with a great incidence of goiter, the diffuse parenchymatous goiters are very common in children and at puberty. In level regions, however, they are so rare that most of the American classifications do not even list them. Also in goitrous areas of the mountains, the diffuse parenchymatous goiter is rarely seen after the second decade of life and is replaced by the nodular, parenchymatous goiter, the so-called fetal adenoma. In 76 per cent of the surgical material at Bern, Switzerland, nodular, parenchymatous goiter was found by Woelz, and Wydler states that 94 of his 104 cretin goiters showed this structure. The reverse incidence is seen in level regions with only slight frequency of goiter. Among the surgical specimens at Wichita only 13.9 per cent of the goiters were parenchymatous. This is still higher than in other areas of the United States; in Ann Arbor, Michigan, the incidence is 6.8 per cent. The nodular parenchymatous goiter is so rare in North America that Hertzler wants to separate it from the common goiter and proposes for it the term "mixed tumor." This standpoint is limited to the goiter forms as seen in level countries and is not justified from a world-wide point of view of geographic pathology, because the so-called fetal adenoma constitutes actually the most frequent type of endemic goiter in mountainous regions.

And no more justifiable is the opposite conception of goiter students who, living in a severe endemic area, regard exophthalmic goiter as a disease without any relation to simple goiter. By extensive studies, not only of American goiters, but also of many glands from European patients, I am forced to believe that ex-

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ophthalmic goiter develops usually in a diffuse colloid goiter. In almost every instance of exophthalmic goiter, histological study will reveal large colloid-filled acini. This indicates, that diffuse colloid goiter and exophthalmic goiter are nearly related and that one can easily change into the other. In level regions, the diffuse colloid goiter, which is physiological in puberty, disappears as a rule spontaneously after the twenty-fifth year of life; but when it persists, it is very often accompanied by symptoms of hyperthyroidism. The anatomical fact that most exophthalmic goiters develop on the basis of colloid-goiter, explains very well why Graves' disease occurs so frequently in the same locality where colloid goiter is the prevailing type of endemic goiter, and why in mountainous regions, where colloid goiter is very rare as compared with the parenchymatous goiter, exophthalmic and toxic goiter are the exception.

A thorough knowledge of the variations in structure and functional disturbance of goiter according to the locality will necessarily also influence our conception of the etiology of this world-wide disease.

STUDIES ON THE ETIOLOGY OF GOITER

There have been many theories as to the cause of goiter most of which are only of historic value. The majority of the European authorities at the International Goiter Conference in Bern, were advocates of the infectious theory of goiter, while in this country most investigators regard the lack of iodine as the exciting cause of simple goiter. McClendon and Hathaway determined the iodine content of food and water from goitrous and non-goitrous areas and showed that there is little iodine in the vegetables and the water of those parts of the country in which goiter is a serious problem. From their studies of mammalian goiter, Marine and Lenhart arrived at the conclusion, that the thyroid gland undergoes hyperplasia whenever its iodine content falls below 0.1 per cent and that the therapeutic effect of iodine is the result of restoring to the thyroid gland the normal amount of iodine.

The iodine deficiency theory of goiter is not new. More than 80 years ago, a French scientist, Chatin, showed there was a low iodine content in soil and water in districts of endemic goiter, but his chemical studies were discredited and his theory was abandoned until Baumann discovered iodine as a normal constituent of the thyroid. During the past 20 years, extensive analyses of food, soil and water for iodine have been made with a much improved technic. While many confirm Chatin's original claim, there are as many exceptions and contradictions. Liek reported that on the German coast goiter is not uncommon in spite of a very high iodine content in the local food and water and, on the other hand, Pfister of Dutch India and McCarrison of the Himalayan regions, emphasize that there are areas with a very low iodine supply which are entirely free from goiter.

If we consider that most of our knowledge about other deficiency diseases is based on feeding experiments, it appears strange, that for the iodine deficiency theory of goiter a direct experimental proof has never been attempted. In the summer months of 1929 and again in 1932, I carried out experiments on white rats, by feeding them an almost completely iodine-free diet. Not once was I able to produce goiter in these animals which are known to acquire hyperplasia of the thyroid very readily, if kept in goitrous regions (Table 1). My negative results were confirmed recently by Hibbard of New York and by Jackson of Minneapolis. Not only did the strictest iodine-free diet fail to cause hyperplasia, but the thyroid gland seemed even to undergo atrophy the severity of which was in inverse proportion to the amount of iodine taken and in direct proportion to the length of time the feeding experiments were continued.

Without questioning the important role that iodine may play in the prevention of goiter, I believe that the essential cause of goiter is a positive agent. In the middle of the last century, McClelland and Bouchardat advanced the theory that an excess of calcium in drinking water may cause endemic goiter. There

TABLE 1

Diet	Number of Animals	Size of Thyroid Lobes	Histological Structure of Thyroid Gland of representative experimental animal
GROUP I. Barley and distilled water for 98 days	6	R:3.5x1.5x2mm. L:3 x1.5x2mm.	Average diameter of acini: 36 micron. Many wide lumina. Abundant amount of colloid. Thick consistency, large vacuoles. Height of epithelium: 6 micron. Absent hyperemia.
GROUP II. Barley and calcium-rich water for 98 days	5	R: 5x1.5x2mm. L: 4x1.5x2mm.	Average diameter of acini: 20 micron. Few wide lumina. Small amount of colloid in larger acini. Many vacuoles. Many empty acini. Height of epithelium: 12 micron. Marked hyperemia.
GROUP III. Calcium-rich water, otherwise well balanced diet for 98 days	11	R: 5x1.5x3mm. L: 5x1.5x2.5mm.	Average diameter of acini: 50 micron. Very many wide lumina. Abundant amount of colloid, well stained. Few vacuoles. Height of epithelium: 10 micron. Moderate hyperemia.

are recorded instances of goiter endemicity on one bank of a stream and its absence on the other, corresponding to limestone and its lack. With an iodine-free diet and drinking water, containing 2 per cent calcium chlorid I was able to produce distinct goiters in white rats after a period of 98 days (Table 1). By giving calcium together with iodine-rich food, the thyroid glands of my experimental animals were also definitely enlarged. But in this series (Table 1) they were of the colloid type, while after calcium-rich and iodine-poor diet the artificial goiters were of the hyperplastic type with very little colloid.

CONCLUSIONS

From these experiments, it seems fair to conclude that iodine-insufficiency by itself is not the fundamental cause of goiter, but that a positive agent is responsible for its development. This positive agent is perhaps not a single specific factor; there may be other causative factors besides calcium excess. Four years ago, Chesney and Webster produced large goiters in rabbits by cabbage feeding, independent of the iodine content of the food. Only the conception of a positive goitrogenic agent can explain the fact that endemic goiter may be present in localities rich in iodine and, on the other hand, absent in regions with lack of iodine.

The iodine deficiency theory does not explain the variations in structure and function of goiter in different regions. After feeding the animals a calcium rich diet, I produced goiters which had a different structure according to the different iodine content of the food. The artificial goiters were poor in colloid after iodine-free diet, and colloid-rich when the diet contained much iodine. The essential cause of these experimental goiters was, however, the same in both series, namely excess of calcium. From these experiments, it seems very probable, that also the differences in the character of endemic goiter in different regions may be due to differences in the iodine content of the food, the positive etiologic factor being the same and world-wide.

The present-day tendency is—according to McCarrison—to consider goiters too much from the narrow point of view of iodine, as might a mechanic who considered the efficiency of his engine solely from the point of view of lubrication. In my opinion, the etiology of goiter is a much too complicated problem, to be solved by the iodine deficiency theory.

SUMMARY

The few statistical data available for North America indicate that the goiter type in this country is very different from that in mountainous regions of high endemicity. The North American goiter resembles the goiter forms as found in European level regions.

The most common structure of goiter in the United States is the diffuse and nodular colloid goiter. Thyrotoxicosis ac-

companies goiter in North America more frequently than in any other country yet studied. This is probably closely related to the high incidence of colloid goiter.

The iodine deficiency theory fails to explain the variations in structure and functional disturbance of goiter in different regions.

In animal experiments, an iodine-poor diet does not produce goiter.

Drinking water, rich in calcium, produces definite hyperplasia of the thyroid gland in white rats.

The structure and the colloid content of these artificial goiters depends on the iodine content of the calcium-rich diet.

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A.L.A.—"A.L.A." is the unscientific proprietary name for a local anesthetic which is being exploited to the medical profession by Sutliff & Case Company, Inc., Peoria, Ill. According to the advertising the product has the following formula: P-Aminobenzoic Acid Ethylester 3 per cent; Phenmethylol 5 per cent; Ether 10 per cent; Olive Oil 82 per cent. If the firm had wanted to be absolutely candid about the composition of its product it would not have been necessary to hide the composition under the noninforming initials A.L.A. Naturally, the product does not stand accepted by the Council on Pharmacy and Chemistry. (Jour. A.M.A., August 12, 1933, p. 547.)

Rule Governing Advertising to Physicians.—The Committee on Foods reports that the section "Rules Governing Package Label and Advertising" of its rules and regulations has been amended to state that advertising intended solely for the physician may include disease names and information supported by sufficient evidence regarding the special use of foods in the diet of the sick, but that such advertising shall not treat foods as medicines or attempt to transform foods into therapeutic agents. (Jour. A.M.A., August 19, 1933, p. 605.)

THE SIGNIFICANCE OF NERVOUSNESS*

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The term "nervousness" or "nervous breakdown"—like the traditional Mother Hubbard—covers everything and fails to touch a single point. It is a purely physical term, used to describe a mental condition. *Strictly speaking, there is no such thing as a nervous breakdown.* The condition described is a personality disorder based on either a mental breakdown or a character breakdown, more often the latter than the former. It is nothing which should be diagnosed lightly and on the patient's part, it is nothing he should be proud to talk about. Yet the difficulties of nine-tenths of our patients coming here are explained as "nervous breakdowns." Why do physicians and patients alike perpetuate the use of a term which means nothing?

The Christian name for this condition, if there can be a Christian name for a thing which is truly devilish, is psychoneurosis. The psychoneuroses, more than any mental ills, have the right to be classified under the grouping of the functional mental disorders. Like love and religion—they are primarily "a state of mind." They are not discovered by the microscope, or identified by some chemical test. Although many physical signs can be demonstrated and instances noted of disturbed function, yet the etiology is in the realm of the psychological rather than the physical. Like the functional psychoses these are personality or character disorders. Both are based upon a failure of adaptation. The precox or manic depressive patient is unable to *adjust* himself to his *environment.* He fails to see things as they really are, his sense perceptions are unreal and distorted; he experiences hallucinations.

The psychoneurotic, on the other hand, sees things correctly but is unable to effect *adjustment* with *himself.* The psychotic individual is fighting a foe which is an *invading* force and the battle is

*Read before the meeting of the Franklin County Medical Society at Osawatomie, June 28, 1933.

either lost or won. The psychoneurotic is carrying on a civil war, an intra-psychic conflict, a war which never has a decisive battle unless help is brought from without. The forces engaged are always *emotions*. They may paralyze any function of the body, poison secretions, send their deadly gas into the mind, take prisoner the will.

The psychoneuroses (the battle-ground of the emotions) are recognized in four different types: The hysterical and neurasthenic refer especially to the *physical;* The psychasthenic and anxiety type are directed toward the *mental.* The hysterical type is a condition in which the warring emotions express themselves through the *body* in an *objective* way. The neurasthenic type is an expression of the warring emotions through the *body* in a *subjective* way. The psychasthenic type is an expression of the emotions through the *mind* in an *objective* way. The anxiety type is an expression of the emotions through the *mind* in a *subjective* way. These comprise the several types seen in general practice and make up 45 per cent of all people and at least 75 per cent of the patients of the general practitioner.

Now as to the symptoms of the different types of psychoneurosis: The hysterical type manifests his emotional conflict by a predominance of *objective physical signs.* Contrary to ordinary belief, the hysteric is not one who is always complaining. His symptoms are objective and anyone can see for himself. He has a paralyzed limb, a contracture, an area of anaesthesia, an aphonia or an amnesia. The hysteric solves his emotional conflict by converting it into a physical thing through his autonomic nervous system and then running away and forgetting it like the patient who runs up a bill, changes doctors, and erases the original account from his mind.

The *neurasthenic* manifests his emotional conflict by a predominance of *subjective physical symptoms.* The hysteric says little and shows much; the neurasthenic talks continuously, but shows no objective signs. He has to talk for there is no other evidence. His principal symptoms are physical fatigability, irritability, hypochondrical ideas and indecision. The hysteric is a coward and runs away from his conflict. The neurasthenic puts up a fight but is always in retreat. He is like the patient whose account is always getting larger and who is unable to make any payments whatever.

The *psychasthenic* manifests his emotional conflict by a predominance of *objective mental symptoms* such as impulsions, compulsions, obsessions, and phobias. What the hysteric is in a physical sense, the psychasthenic is in the mental sphere. The hysterical patient shows a paralyzed arm; the psychasthenic, a paralyzed will, one exhibits a contracture, the other an obsession.

The anxiety type manifests his emotional conflict in a predominance of *subjective mental symptoms.* He is the mental neurasthenic. He manifests mental fatigability, irritability, anxiety and fear. Like the physical neurasthenic, his difficulty is generally due to emotional disturbance arising from abnormalities in the sexual sphere.

What then is the cause of this civil war, this internal conflict, which manifests itself in so many diverse ways? We have said they were intrapsychic conflicts, the battling of instincts, inhibitions and emotions. The primal instincts of self-preservation and self-perpetuation, the emotions attendant on each and the dictates of an artificial and complicated social environment lay the ground work for this battle of the emotions. The ability to work and solve the problems of life requires a perfectly integrated personality, the ability to see a goal for one's life and the ability to adapt oneself to one's own environment. Failure to attain this goal may precipitate the emotional conflict.

Two factors enter into this battle of emotions and instincts for survival: First, the natural physical and mental equipment of the individual; second, the complexities of his environment. It can readily be seen that individuals with defective or delicate natural equipment might break under the ordinary strain of living. On the other hand, one of more

than ordinary mental and physical ability might be overcome by increasing the complexities of his situation. In the World War many who were able to meet the ordinary demands of business and society were unable to meet the exigencies of war and so developed a psychoneurosis. Other individuals in business, although capable of rendering a high order of service, might in another position prove failures due to complexities of environment.

Psychoneuroses are the results of unsolved problems in which instincts and emotions are the factors. *Conflicts which are settled do not cause neuroses;* full payment is made and the account closed. The debt which causes the emotional war is either one which is not acknowledged, one which we are unable to meet through lack of resources, or one which, like the international war debts, was acquired at a time of emergency and later repudiated.

The cause of "nervous breakdown" is often attributed to overwork. This is a mistake. Work, mental or physical, has never caused a neurosis any more than working in a bank would cause one to become an embezzler. It means that the individual has a flaw, a "yellow streak" and that the phenomena shown indicates a breakdown in character, a weakening of personality (which is the expression of character) rather than a condition in the sphere of the physical.

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Oyloff Dry Shampoo.—In an advertisement published in the Woman's Home Companion for January, 1933, the following claims are made for "Oyloff Dry Shampoo" put out by the Godefroy Manufacturing Company of St. Louis: "It's amazing how Oyloff Dry Shampoo removes all oil and dirt, cleans the scalp and reveals the silky luster, beauty and romance of your hair;" "Just apply Oyloff, let it dry, then brush thoroughly. You can see the oil and dirt come tumbling out;" "Try it once and you'll thrill over it, too." A bottle of Oyloff was purchased on the open market and $1.05 had to be paid for it. It was turned over to the A.M.A. Chemical Laboratory with the request that it be analyzed. From the chemists' report we learn that this "amazing" product that reveals the "romance of your hair" and that will "thrill" you is, essentially, a pinch of salt in five ounces of water. Paying $1.05 for five ounces of salt water would seem, under present economic conditions, to furnish a text for a discussion on certain phases of modern business. (Jour. A.M.A., July 29, 1933, p. 386).

CASE REPORT

Acetanilid Poisoning—Result of Self-Medication

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Wichita, Kansas

This case is presented as an example of self-prescribing of dangerous drugs.

One morning about the middle of February an emaciated, cadaverous-looking male, age 65 and white, presented himself at the office for examination. He complained of exhaustion, shortness of breath on exertion, palpitation and chronic headaches. He had had headaches, dull in character and frontal in location with onset early in the morning just after arising, for the past four or five years. About three years ago he discovered that he obtained relief by taking one of Dr. Miles' Anti-Pain pills. By two years ago it became necessary to repeat with a second tablet daily; during the last year he had taken three a day to obtain relief from his headache. During the past year he had gradually noticed failing strength and that "the heart beat hard and more rapid," accompanied by increasing shortness of breath on exertion. He had experienced considerable trouble with "gas on the stomach" shortly after eating and had avoided full meals. He had been a heavy smoker for several years. The past and family histories were essentially negative.

PHYSICAL EXAMINATION

The patient weighed 113½ pounds; height 67 inches; temperature 98°; blood pressure 170/100; pulse 80 and regular. He was moderately nervous. His skin was cold and clammy. The lips, cheeks, mucous membranes and extremities were cyanosed. The heart: Normal size; rhythm regular; sounds very soft with a soft systolic murmur heard best to the right of the sternum in the second interspace but also faintly heard at the apex. Physical examination otherwise negative.

LABORATORY FINDINGS

Urine: Slightly cloudy; deep yellow; acid; specific gravity 1.017; albumen 2+; sugar, none; blood, none; rare granular casts. White blood cells 10-15 per field. Acetanilid was recovered from both

morning and evening specimens.—(Todd-Sanford p. 165).

Blood: Hemoglobin 65 per cent; red blood cells, 3,650,000; white blood cells, 9,200, and Wassermann, negative.

Urea nitrogen: 14.9 mgs. urea nitrogen per 100 cc. blood.

Electrocardiogram: Showed regular sinus type rhythm. P-R intervals .16 of a second. R-S intervals .07 of a second. Complexes, normal in character showing left axis deviation.

x-Ray: Stomach, gall-bladder, urinary tracts and skull showed no evidence of pathology.

A diagnosis of chronic acetanilid poisoning with secondary anemia, kidney and myocardial damage and chronic malnutrition was made.

The patient was put on a forced feed diet with abundant fruits and vegetables; meat once a day, and a glass of milk and cream six times a day. He was advised to take modified Blaud's capsules three times daily. He was given a prescription consisting of phenobarbital, grains ½, and aspirin, grains 5, to be taken when necessary for headache. His smoking was limited to three pipefuls after meals and none within one hour before each meal.

During the first three weeks the patient made a remarkable gain. His color improved as well as his weight and strength, the weight being 119 pounds. With normal eating and a reasonable gain in weight his headaches disappeared quickly.

He was last seen on July 5, 1933, at which time he weighed 127 pounds and felt very well, reporting that he could walk three or four miles each day without experiencing either extreme fatigue or any shortness of breath. The blood pressure was 120/80; the urine showed a trace of albumen and rare hyalin casts. The blood picture showed hemoglobin 94 per cent; r.b.c., 4,810,000 and w.b.c., 8,600.

The patient states that many of his old friends are no longer able to recognize him because of his changed appearance.

This patient had been taking Dr. Miles' Anti-Pain pills for three years and gradually losing his health. The label on each package of these pills states that each pill contains two grains of acetanilid. His rather remarkable comeback to normal health since he ceased to take these pills would indicate that they were the causative factor in producing all of his trouble. During this period he declares he has taken no other medicines.

Patients should be warned against the use of acetanilid preparations taken regularly over long periods of time and the danger in so using these preparations should be printed on the labels. There are still pitfalls for the self-prescribing patient.

UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

Fibrosarcoma of the Anterior Abdominal Wall—Report of Two Cases

C. C. Nesselrode, M.D.*
M. A. Walker, M.D.*

Malignant tumors of connective tissue origin and located in the anterior abdominal wall are so infrequent that a report of our two recent cases seems justifiable.

Case 1. A married white woman, 38 years old, had been aware for at least 15 years of a firm light brown spot the size of a pea in the skin of the anterior abdominal wall, 5 cm. medial to the right anterior superior iliac spine. In 1931, the gradual enlargement of this lesion caused her to consult her family physician, who advised its removal. Soon she became pregnant, for the sixth time, and the nodule enlarged quite rapidly. Her doctor then urged immediate removal of this tumor, but she absolutely refused. During the eight months following the birth of her baby, to December, 1932, when she entered St. Margaret's Hospital for operation, she had lost 40 pounds of weight, from 213 to 173. The mass had become firm and nodular, occupied most of the space between the umbilicus and the right anterior superior iliac spine, and was attached to the skin, which was slightly elevated and light brown over an irregular area about 10 cm. in diameter. There were three fairly discrete subcutaneous nodules, each about 4 cm. in diameter, and several

*Department of Surgery.

other contiguous pea-sized nodules; the entire mass was freely movable on the deep fascia. There was no evidence of metastasis in the liver, lungs, regional lymph nodes, or elsewhere.

Using local infiltration anesthesia, the entire tumor was removed in a rectangular block of tissue comprised of the skin and subcutaneous tissue down to the aponeurosis of the external oblique muscle. When the three large nodules were subsequently cut, the surface of one had the typical architecture of a benign fibroma, with interlacing white and gray fibrous strands. The surfaces made by cutting the other tumor nodules, however, were homogeneous, gray, and had the consistency of firmly set gelatin. These nodules were extremely cellular spindle-cell fibrosarcomata. The patient had an uneventful convalescence and at present is seemingly in good health.

Case 2. Because of severe cramp-like pains which occurred at each menstrual period, a colored woman, single, 24 years old, was operated elsewhere in July, 1928. Both uterine (Fallopian) tubes, the left ovary, and the appendix were removed; the pathologist reported these organs had undergone moderate acute and chronic inflammatory changes. The patient was then in good health for more than a year except that she continued to have severe cramps with each menstrual period. In January, 1930, she first noticed some small nodules under and around the scar resulting from the first operation. These gradually increased in size until, in March 1931, severe nodular tumors the size of grapefruit were removed from the abdominal wall; the diagnosis by the pathologist was fibromyxoma, possibly malignant. A cystic right ovary was also said to have been excised at this operation, and thereafter the patient had scanty and painless menstrual periods every five or six weeks. In November, 1931, she again noticed nodules around the scar.

In March, 1933, when we saw this patient for the first time, the abdominal wall was bulging from the costal margins to the pubic symphysis with large round and ovoid subcutaneous tumor masses. There was no actual involvement of the skin, although the keloid scar of the last operation was slightly elevated throughout its length and had an average width of 1 cm. Tumor masses could not be felt in the pelvis, and metastases could not be found in lymph nodes or elsewhere. A roentgenogram of the thorax was negative.

Although the involvement of the abdominal wall was extensive, the slow growth of the tumor seemed to warrant an attempt at its complete excision. Using ether anesthesia, an incision was made in the right epigastric region, the only portion of the anterior abdominal wall not involved by the growth. After incising the peritoneum, however, the discovery of large fixed retroperitoneal masses made apparent the hopelessness of the situation. The tumor tissue in the abdominal wall seemed to be entirely posterior to the deep fascia, and did not arise from the skin. A section excised for microscopic study showed a moderately cellular fibro-myxosarcoma.

COMMENT

Both cases demonstrate the need of constant emphasis to the lay public and to physicians of the desirability of the wide removal of all newly formed palpable lumps. Both our patients delayed much longer than was necessary for the establishment of a diagnosis sufficient to warrant a surgical procedure. Wide excision of a block of tissue containing a tumor, clinically and histologically malignant but still localized, has resulted in many apparent cures. Our first patient was so treated, and thus far has had no recurrence. In our second patient, the condition present at the time we operated on her is incurable in the light of our present knowledge of the treatment of cancer. Such slowly growing tumors, of only slight malignancy as judged by histological examination, are not influenced by radium or roentgen rays. Their rate of growth frequently seems to be accelerated by their partial removal; incomplete excision of benign tumors may even be a factor inciting malignant change. Therefore, we again wish to urge the complete and wide excision of growing tumors as early as possible, while the lesion is still localized and while a prospect of entire cure can be offered.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of The Kansas Tuberculosis and Health Association

A symposium on silicosis contributed by a group of distinguished clinicians and research workers occupied a prominent place on the program of the annual meeting of the National Tuberculosis Association held in Toronto, June 27-30, 1933. Extracts of the papers, which will be published elsewhere later, are here presented.

Silicosis and Tuberculosis

A. J. Lanza, specialist in industrial medicine, stated that while it is impossible to estimate accurately the prevalence of silicosis in the general population, studies among employees of trades with a silicotic dust hazard show a high tuberculosis mortality among them. Much of this excess in the tuberculosis death rate may be ascribed to silicosis. In a few instances the prevalence of silicosis has been carefully estimated, but the rates so obtained cannot be applied generally because industrial conditions vary so widely. However, it is apparent that silicosis is a widespread industrial hazard, is probably on the increase, and affects to an appreciable extent the death rate among industrial workers exposed.

Professor S. Lyle Cummins of Wales, Adviser to the (British) Tuberculosis Research Committee, which recently issued an epochal report on tuberculosis among South African natives engaged in gold mining, stated that there are serious lacunae in our knowledge about dust diseases. "Silicosis" is a state of bilateral lung and lymph-node fibrosis, for the most part nodular in type, resulting from the inhalation and the retention in the lung of the dust of hard stone; the particles being in such fine division as to enter the pulmonary alveoli and ultimately the lung tissue where they set up characteristic changes and determine an increased liability to pulmonary tuberculosis. We know, too, from the animal experiments of reliable investigators, that free silica introduced into the tissues, either in its crystalline form or as a solution, sets up inflammatory processes leading on to fibrosis; and that its presence acts as an adjuvant to the local multiplication of tubercle bacilli.

In South Wales coal miners suffer with a condition corresponding to the silicosis of metalliferous miners, but which does not apparently predispose to fatal lung tuberculosis. These observations question the criteria on which the diagnosis of silicosis is usually made. Studies among gold miners in South Africa provide much accurate information. The dust inhaled by miners on the Rand contains other elements than free silica. Some of the elements of these complex dusts may be adjuvants to the action of free silica and others may tend to neutralize it. We need, said Dr. Cummins, a scientific "recessional" in which to reexamine with an open mind many of the generalizations now accepted as current coin in relation to silicosis and "miners" phthisis.

Pulmonary tuberculosis so readily complicates simple silicosis, said A. R. Riddell of Toronto, that silicotic fibrosis rarely reaches advanced stages without its occurrence. Simple silicosis seldom occasions conscious disability unless the fibrosis is advanced.

Clinical signs in silicosis are those common to fibrosing lung conditions and therefore not characteristic except that they generally occur throughout the chest and are not confined to circumscribed areas. A lessening of the breath sounds or blanketing together with a shortening of the inspiratory phase, which is at the same time raised in pitch, has diagnostic value. *x*-Ray shadows, when considered in conjunction with a clear history of exposure, are diagnostic.

The teaching that tuberculosis arising among those in silica trades is not infectious cannot be universally entertained. The author has found as great an amount of infection among the wives and children of tuberculous silicotics as among those in contact with ordinary tuberculosis.

Leroy U. Gardiner of Saranac presented a picture of the pathological sequence following inhalation of silica dust.

Autopsy material in this country is rare, but this lack is compensated to some degree by the fact that silicotic conditions can be reproduced in experimental animals.

The first reaction to inhaled silica is non-specific and is probably the same for any type of dust. It consists of accumulations of phagocytes in the subpleural air spaces accompanied by a slight thickening of their walls. By *x*-ray this may be visualized as a slight diffuse haze beneath the pleura in the mid-portions of the lungs.

Phagocytes carry the silica to lymphoid tissue within the lung and the mediastinum where nodules of fibrous tissue develop which compress the lymphatic vessels and interfere with the flow of lymph. Phagocytes pass through the walls of the lymphatics and excite fibrosis in the areolar tissue about them. In the roentgenogram the thickened vascular trunks, beaded by minute nodules of specific reaction, are now clearly discernable. Nodules in the tracheobronchial nodes enlarge these structures and widen the mediastinal shadow.

When lymphatic obstruction is advanced phagocytes carry dust immediately into all parts of the pulmonary framework with the formation of a diffuse fibrosis and multiple nodules in the walls of the terminal air spaces. The roentgenogram dicloses great numbers of discrete nodules uniformly scattered throughout the lung, which are easily visible because surrounded by compensatory emphysema.

Acute silicosis is said to develop in response to excessive concentrations of exceedingly fine dust. Sections of all those seen by the author have been complicated by tuberculosis but the simple form may occur.

When tuberculosis complicates silicosis it may arise from a pre-existing latent infection or from a new one acquired during occupational life. It becomes more common as the amount of silicosis increases. The combination of the two conditions constitutes a new disease entity which is characterized by lesions different from those which either irritant produces alone. In the presence of tuberculosis the silicotic nodules increase in size and its borders become ill-defined and irregular. Its center may caseate but often it does not. Tubercle bacilli are rare or absent. Conglomerations of nodules imbedded in a matrix of dense pigmented leather-like scar tissue are common in the mid lungs and are frequently bilateral. Foci of caseation or even cavities may occur within such areas. Such changes are demonstrable both by roentgenogram and post-mortem sections. The cause of the susceptibility of the silicotic lung to tuberculosis remains to be demonstrated although various experimental data have shed some light upon the character of the process.

Willis S. Lemon and George M. Higgins of Rochester, Minnesota, described the development of the pulmonary silicotic nodule in the experimental animal. The amount and the situation of lymphatic tissue determine not only the site but the physical characteristics of the developing lesions. They become massive and conglomerate in the progressively smaller and more discrete as the sizes of the bronchi decrease. Lesions of variable size occur in the subpleural regions.

Henry K. Pancoast and Eugene P. Pendergrass of Philadelphia described the roentgenological aspects of this subject. The roentgen examination is the most exact means of determining the presence of silicosis, the degree of progression and the differential diagnosis.

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Paul C. Hodges, Wright Adams and Wayne Gordon, Chicago (Journal A.M.A., Sept. 16, 1933), point out that roentgen examinations conducted for the purpose of finding out whether the heart of a sick child is enlarged presume a knowledge of the normal size of the heart of that child. Tables and formulas exist for predicting the normal size of the heart from the height and weight in adults, but there has been need for similar equations for children. As the result of teleoroentgenographic studies on 169 carefully selected normal children ranging in age from about 3 years to about 19 years, such an equation has been developed. It reads: F=0.180H+1.045W+13.7. A table is published by means of which estimates of the normal size of the heart can be made rapidly without computations.

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EARLE G. BROWN, M.D. - - - - Editor

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EDITORIAL

EPIDEMIC ENCEPHALITIS

During the period Auugst 7 to September 10, inclusive, 656 cases of encephalitis were reported in St. Louis City and St. Louis County. Unofficial reports since that date bring the total to more than 950 cases. Approximately 17 per cent have had a fatal termination. The present outbreak, as regards the number of cases, is the most serious that has occurred in the United States. In the epidemic which prevailed in New York City in February and March, 1932, approximately 500 cases were recorded.

The term "sleeping sickness," as applied to the cases is a misnomer. Early evidence of cerebral involvement is shown and is usually the first symptom. Pronounced somnolence is rare; the patients, however, are physically and mentally sluggish. On the other hand, many are delirious and require restraint; yet, they are infrequently noisy.

The cases have occurred during the summer season which is unusual, as previous epidemics have been reported during the winter months. Preliminary studies show that approximately 36 per cent of cases have occurred in the age group under 35 years, which comprises 60 per cent of the total population. Of the remaining 64 per cent of cases, 35 per cent have occurred in those over 55 years, which comprises but 13 per cent of the total population. More than 90 per cent of deaths have occurred in the age group over 45 years.

The symptomatology of the cases has varied somewhat from most other outbreaks of encephalitis. Disturbances of the motor functions of the eye are rare. The clinical picture is that of a general febrile disturbance, often with gastrointestinal symptoms such as nausea, vomiting and constipation, even obstipation. There are definite evidences of cerebral involvement, an apathetic or immobile facial expression; usually stupor or delirium; a stiff neck, with headache which is often the first and most pronounced symptom, and other pains as of the abdomen or legs; tremor and catatonic semi-rigidity are common in the most severe cases. Tendon reflexes such as those of the elbow, knee and ankle and superficial reflexes such as made by stroking the abdomen tend to be diminished, or absent. A positive Kernig is present in many of the cases.

The triad of symptoms includes: (1) A febrile course; (2) evidences of cerebral involvement, and (3) mild meningeal signs. The duration of the febrile stage is irregular, as the temperature may be normal within a few days after onset.

The cases which have recovered are apparently restored to normal health, even with the most severe type of infection as evidenced by the development of coma within a few hours after onset and Cheyne-Stokes' breathing.

Diagnostic symptoms and signs are: (1) Evidence of cerebral involvement, with headache, stupor, or occasionally delirium; (2) temperature, which may last only three or four days or may be prolonged more than two weeks and decline by lysis; (3) nausea and vomiting; (4) rigidity of the neck; (5) slightly dilated pupils which react to light, but slowly or not at all to accommodation; (6) positive Kernig in the majority of the cases, and (7) spinal fluid count in excess of 10 cells. One of the clinicians who has seen many of the cases states that two almost constant symptoms are the "splotching" of the palate for a distance of approximately one inch anterior to the uvula, and absence of the abdominal reflex during the first three to five days with return and hyperactivity after the acute stage has subsided.

Judging by the analogy with poliomyelitis which this disease resembles epidemiologically, it would seem that human cases and carriers are the transmitting agents, the virus being carried in the naso-pharyngeal secretions and gaining access to the central nervous system through the naso-pharyngeal mucosa. Connected cases and cases in the same family have occurred about as frequently as would be expected in a poliomyelitis epidemic of similar proportions.

The precautions advised in the prevention of the spread of the disease are in general those which are applicable in an epidemic of poliomyelitis, including isolation of the patient for three weeks. Contact with the patient of persons other than the members of the immediate family should be prohibited. Contact with the members of the family should be reduced to a minimum. Nose, throat and mouth discharges should be received in paper receptacles and burned. Bowel and bladder discharges should be disinfected.

No specific treatment has been developed. Spinal puncture is routine, with consequent relief of headache. Intravenous glucose in 10 per cent solution is used to maintain nutrition and prevent edema; 50 per cent solution is used in those patients who develop coma. Sedatives are necessary for patients who develop delirium. Patients cared for in hospitals show a better response than those cared for in the home.

For the present year to September 16, inclusive, 69 cases of encephalitis have been reported in Kansas, from 23 counties. Twenty-one cases have been recorded in Wyandotte County, 19 of them in Kansas City; five cases were reported from Wilson County, and four each from Finney, Franklin, Leavenworth and Sedgwick, Doniphan, Reno, Harvey and Shawnee have each reported three cases, and Linn and Smith, two each. Single cases have been reported from the following counties: Butler, Cloud, Cowley, Ellis, Ford, Grant, Jackson, Lyon, McPherson, Nemaha and Sherman. Ten deaths were reported from January 1 to August 31, inclusive.

Only one area of the state has shown an unusual increase in the number of cases. It is not anticipated the disease will reach epidemic proportions. On the other hand, the total of cases of all types of encephalitis for the year will undoubtedly be the highest on record. Physicians are requested to promptly report all cases or suspected cases to local health officials.

FEDERAL MEDICAL RELIEF

In accordance with the Federal Emergency Relief Act of May 12, 1933, the Federal Emergency Relief Administration issued on June 23, rules and regulations which will provide adequate medical service for persons now indigent and receiving federal relief. Medical relief is available to all persons who are on the federal relief rolls but it is the understanding persons may apply and receive medical relief only, although such persons must prove their need for this type of service. The scope of medical care has also been defined to include: bedside nursing care in connection with medical care, and emergency dental service for such families as are receiving federal relief.

The Federal Relief Administration has made every attempt to preserve the traditional family and family-physician relationship in the authorization of medical care of indigent persons in their homes; consequently, the choice of physician may be designated by such person or persons who are to receive the medical care. The same provision has been made for dental and nursing service. Funds, however, cannot be used for the payment of hospital bills or to provide general institutional care. Such services to the indigent should be made available through local funds.

Authority for medical care is to be issued in writing by the local relief officer on the regular relief order blank. In an emergency, telephone authorization may be made but is to be immediately followed by a written order. Authorization for bed-side nursing care will be made on recommendation by the attending physician.

Provision is also made for the purchase of medicine and medical supplies to be used in the home. Authorization for medicine or medical supplies will be issued in writing and only upon the written request of the physician. Request is made, however, that physicians use a formulary which excludes expensive drugs where possible, but if expensive medication is considered essential by the attending physician it may be authorized after consultation with the local medical advisory committee. Further provision is made that "prescriptions for necessary drugs and medicine shall be restricted to the National Formulary or the United States Pharmacopeia. To avoid excessive expenditures on remedies of unknown or doubtful value, proprietary or patent medicines shall not be authorized."

The Administration in the promulgation of its rules and regulations provides the agreement for medical relief shall be between the state and/or local relief administration and the organized professional group of physicians, nurses and dentists. Requirement is made that a fee schedule be outlined and a flat rate established on a per visit basis for the usual care given acute and chronic illness, for attendance at confinement, and "all special services (medical, nursing or dental) be covered by an agreed reduction from the usual minimum fee schedule for such services with an agreed maximum fee. . . . All fees shall be established on the basis of an appreciable reduction from the prevailing minimum charges for similar services in the state and local communities, with due recognition of the certainty, simplicity and promptness of payment, that authorization from the local relief administration insures."

At the Annual Conference of Secretaries of Constituent State Medical Associations held in Chicago, September 22 and 23, it was learned that a number of states, including New Hampshire, New

Jersey, Kentucky and Montana had had this type of service for a varying period of several months, and apparently the arrangement was entirely satisfactory. One state reported that a fee schedule had been adopted whereby the work was done for 15 per cent less than the normal fee. Another stated that although the agreement had been made by the state medical society with the Relief Administration, the medical society had the privilege of withdrawing at any time and also had the right to decide when the emergency ended.

Under the provisions of the rules and regulations, advisory committees of the medical, nursing, dental and pharmaceutical associations are to be organized to confer with state relief officials in the formulation and adoption of adequate programs for medical and dental service and nursing care in the homes. Consequently, a committee will be appointed by the President of the Kansas Medical Society to confer with local relief officials and as soon as a program is formulated immediate notification will be made to the local county medical societies.

President Colt has designated the Executive Committee to act for the state society, and at a called meeting the following resolution was adopted: "It is the sense of the Executive Committee of the Council of the Kansas Medical Society in session this 29th day of September, 1933, at Topeka, that the proposed measures to afford medical care, and bedside nursing for recipients of unemployment relief under the FERA and the rules and regulations governing such medical and nursing care be approved, and that the same be recommended to the medical profession of the state. It is also recommended that component units be authorized and requested to appoint for their respective county and/or district, a committee which shall arrange as to the fees and other details of such service according to the basis of fees already established for each community.

"It is further the sense of the Executive Committee that emphasis be placed on the fact this is an emergency measure and is to be terminated at the will of the component societies in the various communities served."

PHYSICIANS AND THE NRA

In an effort to combat the present financial situation resulting from the depression, the National Industrial Recovery Act was passed by Congress. Under the provisions of the Act the President was authorized to coordinate the various trades and industries in an effort to increase employment.

Practitioners of medicine have been interested in the success of the NRA. Many questions have arisen as to the relationship of the medical profession to the NRA. Physicians cannot have definite working hours and, therefore, they do not come specifically within its stipulations; neither do their professional employees. However, if a physician has in his employ more than two persons of the non-professional type, they should be under the National Industrial Recovery Act as relates to maximum working hours and minimum wages. Attention was called to this particular provision through action of the executive committee of the Kansas Medical Society at a called meeting on August 8, and published in the September Journal, on page 368.

A statement for the information and guidance of physicians in their relation to the NRA has recently been prepared and appears in the *Journal of the American Medical Association* under date of

September 16, 1933. The statement may be summarized briefly as follows:

1. The National Industrial Recovery Act and the President's Reemployment Agreement do not cover legally the practice of medicine. A practitioner of medicine is not within the purview of the act or of the agreement unless his practice is an integral part of a trade or industry. He incurs no legal liability if he refrains from signing the agreement. All this, however, should not prevent any physician from signing the agreement if he desires and if he can do so consistently with the purpose and spirit of the National Industrial Recovery Act.

2. Before signing the President's Reemployment Agreement, a physician should determine whether his doing so and displaying the Blue Eagle may not tend to discriminate against his less prosperous professional associates.

3. Every county medical society may well, either with or without a request for advice from some individual physician, determine whether the requirements of the President's Reemployment Agreement are such that every physician in the community can practice under it without undue hardship.

4. To avoid future disappointment, it must be recognized that the law does not provide for the punishment of a physician who signs the President's Reemployment Agreement and then cheats. It is understood, however, that the National Recovery Administration has in mind the setting up of machinery whereby persons who have obtained the Blue Eagle and who cheat under it will be held up to public odium through action compelling the surrender of the official insignia.

5. A physician who employs no one can subject himself to the requirements of the President's Reemployment Agreement if he so desires and thus obtain the right to display the Blue Eagle.

It is anticipated that each member of the Kansas Medical Society will cooperate whole-heartedly in the spirit of the NRA.

EDITORIAL COMMENT

During the past ten years there have been 17,152 cancer deaths reported in Kansas. Of this total, 7,097, or 41.1 per cent were the result of cancer of the stomach.

Major William S. Prout, M.C., U. S. Army, former Kansas physician, on duty at U. S. Military Academy, West Point, N. Y., has been assigned to the Hawaiian Department.

Numerous medical publications have called attention to the increase of malpractice suits filed in recent months. Undoubtedly, many malpractice suits are developed as the result of some unintentional comment made by some other physician.

According to a recent announcement, Dr. Eben J. Carey, director of the medical exhibits at the Chicago Century of Progress Exposition and Professor of Anatomy at Marquette University since 1920, has been named dean of the Marquette School of Medicine.

The use of the term "doctor" by a chiropractor is a violation of the medical law of Quebec, a justice of the superior court decided in a recent test case to determine the rights of chiropractors in the province. *(Medical News, Canada. Jour. A.M. A.*, Sept. 9, 1933.)

Dr. E. L. Keyes states the infant mortality rate from syphilis has declined 42 per cent in the Birth Registration Area between the years 1917 and 1929, and the decline was 47 per cent in urban centers and 33⅓ per cent in rural areas. *(Jour. Soc. Hygiene,* January, 1933.)

President James Rowland Angell of Yale University, has announced that Dr. Harvey Cushing has accepted the Sterling Chair of Neurology at the Yale School of Medicine. The position was created as the result of a gift of $300,000 from the estate of John W. Sterling.

Under the provisions of the proposed new national food and drug law, false advertising would be prohibited. The present law prohibits false or misleading statements on the labels of food and drugs; under the new law, labels must tell enough about the product that the consumer will know what he is getting. The Food and Drug Administration will also be able to prevent the sale of drug products if the claims for them are contrary to general agreement of medical opinion.

Three youths, 17, 18 and 20 years old, were each sentenced to 100 years in the penitentiary after a trial in criminal court in Chicago, August 14, when they pleaded guilty to the murder of Dr. B. F. Garnitz, last February. The physician answered what was presumably an emergency call and drove to the address given, an empty apartment, where the youths met him, robbed him and shot him in the side. He died March 11. *(Jour. A.M.A.,* August 19, 1933.)

The Bureau of Investigation of the American Medical Association has for its primary object, the collection and dissemination of information on "patent medicines," quacks, medical fads and various other phases of pseudo-medicine. The Bureau collects its information through (a) original investigations often supplemented by analytical work done in the Chemical Laboratory of the American Medical Association or in other high-class laboratories; (b) data received from federal sources (the Food and Drug Administration of the United States Department of Agriculture, post-office fraud orders, Federal Trade Commission, etc.,) as well as from state and municipal boards of health; (c) information published in technical and other journals, both domestic and foreign, and (d) reports of special commissions.

During the month of October an information card was sent from the American Medical Association to every physician in the United States and Canada. The information which was secured is to be used in compiling the thirteenth edition of the American Medical Directory. The last previous directory appeared in 1931 and in all probability the fourteenth volume will not appear before 1936. The American Medical Directory is one of the most important contributions to the work of the medical profession. In this Directory is found dependable data concerning physicians, hospitals, medical organizations and activities. It provides full information concerning medical colleges, specializations in the field of medical practice, membership in special organizations, tabulation of medical journals and medical libraries and indeed practically every important fact concerning the medical profession in which anyone might possibly be interested. Members of county and state medical societies are differentiated from non-members. The specialty symbol which is used in the Directory is given only when a physician is a member of his county society, a professor in a medical school, or a member of one of the special societies listed in the Directory. There is a distinct advantage to members whose name is listed in the American Medical Directory as belonging to the county, state and consequently the American Medical Association. If you have not furnished this information attend to it at once. If you did not receive a card notify the American Medical Association.

THE PRESIDENT'S MESSAGE

THE NEGLECTED HEART

In my opinion, for the last twenty years our heart cases have been sadly neglected, though all this time we have been conscious of the fact that the death rate from heart diseases of all types has been alarmingly increased. All over the country we are holding tuberculosis and cancer clinics and surveys. I am tempted to say that these conditions have almost reached the epidemic stage. My conscience will not allow me to call them fads, for I, like you, am aware of the great good which has arrived from their activities. I certainly would not want you to slacken your efforts in an attempt to stamp out these two horrible diseases. However, it is high-time that we give some added attention to the heart. While it is true that we realize in this country during a period covering the last half century 17 to 20 years have been added to normal life expectancy, we should not lose sight of the fact that most of this gain is made in the first two years of life and that no appreciable gain is shown after the age of 50. In fact, a very marked loss is found in several important diseases, heart disease heading the list of the greatest mortality increase.

Statistics show that the average life of a railroad engineer is 45 years; over 90 per cent die of some heart lesion or some form of nephritis or both. The average individual of to-day assumes the life of a railroad engineer, driving his automobile at a terrific speed, under the same strain to the nervous system, assuming the same responsibility and receiving the same vibration to the cells of the body. Then, too, we are shamefully abusing ourselves by living indiscreetly, eating and drinking indiscreetly and exposing ourselves with little consideration of the damage we are receiving.

I am not trying to detract from the thought of a focal infection being responsible for most of the heart lesions. In fact, I believe that focal infection is the exciting cause of them all. These remarks have a bearing on resistance against heart diseases. I believe that most of these heart cases are avoidable, but when once contracted are incurable. Seventeen per cent of the people of the United States who die after the age of 50 die from some form of heart disease. These statistics I obtained from the reports of 51 Life Insurance Companies.

In this discussion on the "Neglected Heart" I have included the types of angina with other types of heart disease. From now on let us give the heart of our patients a little more attention; possibly we may prevent some of the heart lesions which are so common.

J. D. Parker, Sr.

Manhattan, Kansas
September 20, 1933

President, Kansas Medical Society

THE LABORATORY

Edited by
J. L. LATTIMORE, M.D., Topeka

Epidemic Encephalitis

Following current medical thought this page is given over to a discussion of epidemic encephalitis. Elsewhere in this Journal the subject is discussed in regard to the symptoms, diagnosis and contagion factors. It was the privilege of the writer to visit St. Louis in September, and see some 75 cases. An endeavor will be made to present some of the observations made there.

One of the most striking things found was that these cases were not of the lethargic type; it is the exception when the patient sleeps more than normal, yet a common finding that the patient is unconscious and violent. For the most part, the cases occur in people past middle life. The most constant findings were: Headache of two or three days duration before consulting the physician; rigidity of the neck; a temperature, usually about 104°, lasting four or five days and subsiding by lysis; a mottling of the throat with greyish and red spots and a spinal fluid that constantly shows an increase in the total number of cells.

From the laboratory angle, there is little aid in making the diagnosis, except through the cell count of the spinal fluid. The counts vary greatly, from 20 to 1,100 per cu. mm. However, the average case shows from 40 to 60 cells, almost entirely lymphocytes. The spinal fluid protein is not increased, except in those cases with extremely high cell count and this increase is due to the protein from the cells. The spinal fluid sugar does not vary from normal. Some cases show slight increase in pressure but it is not constant and of no diagnostic aid. Repeated spinal punctures were not being used as a therapeutic measure.

The blood changes, likewise, give little aid in making the diagnosis. The total leukocyte count varied greatly, from normal to 20,000 with no relation to the severity of the attack. The blood chemistry was unchanged. The differential count shows a usual shift to the left of the Schilling count.

The postmortem findings are almost constant and typical. In the brain, grossly, there are the typical petechial hemorrhages in the grey matter and in some cases extending into the cortex. The brain as a rule is edematous, even to the point where the convolutions may be flattened. The microscopic changes in the brain are also typical and constant, with dilated blood vessels, and a very definite perivascular infiltration with round cells.

The lungs show in many cases, a moist influenzal-like pneumonia, (the bacteriology of which varies with either pneumococci, streptococci or influenza bacilli predominating). In the kidneys some very interesting changes have been observed; inclusion bodies have been found in a number of cases in the lining epithelium of the convoluted tubules. Inclusion bodies of various sorts are frequent in virus diseases and on this basis it would appear that epidemic encephalitis is likely to be one of the virus diseases.

Experimental work in attempting to transmit the disease to monkeys by intracerebral inoculation has given encouraging results but it is too early to state that experimental transmission has been successful. Nevertheless, these results would strengthen the opinion that the condition is one that is transmissible and very definitely a public health problem.

To date, no definite findings have been made as to the causative organism; no specific treatment has been developed. Hospitalization appears to be of definite value. The use of intravenous glucose is routinely used for nutrition and to prevent cerebral edema; symptoms are treated as they arise.

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Alan DeForest Smith, New York (Journal A.M.A., July 29, 1933), reviews the records of seventeen cases of osteomyelitis of the spine seen during a period of more than six years. He states that osteomyelitis of the vertebral bodies occurs quite frequently in a comparatively mild form which may easily be mistaken for tuberculosis. These lesions have a marked tendency to cause spontaneous bony fusion of the vertebral bodies. They should be treated conservatively until it is certain that a cure will not result in this way. The author reports two typical cases.

RECENT MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D., Topeka

PULMONARY EMBOLISM FROM ARSENICALS

Reports of the United States Public Health Service show that at the present time about 643,000 people in this country are receiving treatment for syphilis. There are, of course, many cases receiving treatment that are not reported. According to the ratio of one death for every 16,079 injections, established by the U. S. Navy, there are about 852 deaths from arsenical drugs each year from the 16,075,000 intravenous injections given to the 643,000 people under treatment.

Michaelis in 1911 was the first to suggest that the fatalities resulting from arsphenamine were due to pulmonary embolism formed by precipitates found in the blood after injections of the drug. There is a case report of pulmonary embolism unmistakably due to an injection of arsphenamine. The author also gives a summary of 48 cases of death from arsenicals where 84 per cent of the deaths from arsphenamine were caused by pulmonary embolism and 100 per cent of the deaths by neoarsphenamine were caused by pulmonary embolism.

It is the opinion of Shivers, corroborated by many other authors, that the pulmonary emboli result from a combination of the drugs with the plasma proteins forming precipitates. An acid reaction of the drug as indicated by a PH value below seven appeared to be the cause of the precipitation of the drug in the blood. If the PH of the drug is below 7.0 neoarsphenamine, arsphenamine, sulpharsphenamine and salyrgan will cause precipitates to form in dog serum in vitro. If the PH of the drug is below 7.0 neoarsphenamine, arsphenamine, sulpharsphenamine will precipitate in rabbit serum in vivo causing pulmonary embolism. With the idea of determining a method for the prevention of the accident due to changes in the PH of the drug an investigation of various indicator dyes was made, for it was felt that if an indicator could be combined with the drug to show the PH it would be possible to avoid the injection of an acid solution. Bromthymol blue was selected because it has a PH range from 6.0 to 7.8, is yellow on the acid side and blue on the alkaline side. It was found to have a very sharp end-point at PH 7 when combined with neoarsphenamine, in which case it gives a green solution if alkaline and a yellow solution if acid. The amount of the dye which is not toxic even when injected into the blood stream with the neoarsphenamine that must be combined with the drug to give a satisfactory color is 0.8 mg. per ampule of drug. A drop or two of this drug may be added to each dose of neoarsphenamine before injection as an indicator. A method is outlined whereby the combination of bromthymol blue with the drug in ampules will enable the physician to determine at the time of injection whether the drug is suitable for administration.

A plan of use for treatment is outlined when accidents result from acid solutions of these drugs.

Pulmonary Embolism from Arsenicals Injected Intravenously. Shivers, Geo. C. Archives of Dermatology and Syphilology. 27:901-922. June 1933.

THE RELATIONSHIP OF THE AUTONOMIC NERVOUS SYSTEM TO GENERAL MEDICINE

The author attempts to survey the important roles played by the autonomic nervous system in the symptomatology and pathologic physiology of numerous diseases. He ascribes to this system the principal place in the body's effort to preserve a constant internal milieu. The autonomic system has two principal pathways, the sympathetic and parasympathetic outflows, and in their functioning neural and hormonal stimuli are inextricably intertwined. The constitutional type of Eppinger and Hess in which either the sympathetic or parasympathetic system predominates, is reviewed, but the author feels that modern studies of disease do not indicate a clear separation.

The author gives examples of pathologic autonomic reflex activity. A gastric ulcer or an inflamed gallbladder or appendix may all cause hypersecretion and hypermotility of the stomach. Visceromotor reflexes may be seen in the

muscle spasm of intraabdominal disease. Viscero-cutaneous reflexes are also evident in the skin, hypersensitiveness occurring in the same diseases. On the therapeutic side the cutaneo-visceral reflex may be considered the mechanism of benefit from some forms of physiotherapy. Exophthalmic goiter, certain endocrinopathies, and allergic diseases are cited as examples of morbid autonomic function. Paroxysmal states such as epilepsy, migraine, and many vascular crises are also included. The symptoms of certain important and common diseases are ascribed to autonomic reflexes, even some early symptoms of tuberculosis, among them flushing, digestive disturbances, chest and shoulder pain, and others (Pottenger).

The mechanism of fever is given special consideration. The occurrence of hyperpyrexia in irritation of the wall of the third ventricle or the diencephalon is mentioned, also the failure of heat regulation or fever production in animals in whom the sympathetic nerves have been removed, or the cervical cord cut. Human cases of cervical cord injury with severe hypothermia and other striking vegetative symptoms are mentioned (Gordon Holmes). The author ascribes a preponderant role to the disturbance of heat loss through the skin and cites the striking superficial phenomena of the chill, in which internal temperature may be at its height. It is also recalled that fever-like anaesthesia depresses autonomic activity, notably gastric secretion, and certain pathologic states such as asthmatic and gastric crises.

The anatomy of the hypothalamic region is briefly sketched as well as its connections with the pituitary body through the hypophyseal stalk. The speculation on the question of neural or hormonal flow through the stalk is mentioned, as well as attempts to establish definite neural and endocrine correlates. The reader is reminded of the possibility that hypothalamic neurologic lesions may simulate endocrine states.

Psychic factors are discussed and it is felt that the same type of autonomic symptoms may be produced by either psychic or organic stimuli acting on the diencephalic region, the "mainspring of primitive existence" (Cushing). The psychological conditioning of vegetative reflexes is reviewed. The reality of neurotic suffering is stressed. The possible importance of psychological factors in organic diseases, especially in the autonomic sphere (hypertension, asthma, goiter, etc.) is mentioned. Cushing's work on the relation of cerebral lesions in man to gastric ulcer is mentioned, as well as animal experimentation along the same lines. The opinion of Ingvar regarding the infrequence of organic change in severe neuroses is mentioned, and with it his opinion that a neurosis is a disorder of the whole body, in which a potentially diseased organ succumbs. The organ disease is "uncovered" by the neurosis. The author closes with the opinion that a knowledge of internal medicine is essential to the proper treatment of neuroses. The names and opinions of distinguished investigators are cited throughout the paper.

The Relationship of the Autonomic Nervous System to General Medicine. Sprunt, T. P. Annals of Internal Medicine. 7:257. August 1933.

INTRAMUSCULAR INJECTIONS OF LIVER EXTRACT IN THE TREATMENT OF PERNICIOUS ANEMIA

Murphy summarizes the work which has been done on the development of a concentrated solution of liver extract for use by intramuscular injection. Up to the present time this work has been carried to a point where 3 cc. of a solution, which contains the active principle from 100 gm. of liver, "—will replace from 30 to 50 times that amount (3000 to 5000 gm.) of whole liver administered by mouth."

He states the conclusions as to the advantages of this form of treatment as compared with other methods of liver administration are as follows:

1. The dosage is under the absolute control of the physician.

2. In severe relapse the agent is particularly efficient because of its rapid effect.

3. It has high value in treating resistant cases because of the ease and certainty of administration.

4. It supplies optimal amounts of the active liver substance which is the de-

sired end in treating cases in which there is involvement of the nervous system.

5. In cases of uncomplicated pernicious anemia this agent appears to be an ideal method because of the relative infrequency of administration. The usual procedure being to give 3 cc. at an average interval of 3 to 4 weeks.

6. According to the author this is an economical procedure.

7. The difficulties incurred in the usual methods of administration of liver while traveling are obviated.

8. The fact that the substance has to be given by needle may be a disadvantage, but this has been minimized by the infrequency of administration.

The Advantages of Intramuscular Injections of a Solution of Liver Extract in the Treatment of Pernicious Anemia. By William P. Murphy, M.D. The American Journal of the Medical Sciences, 186:361-64. No. 3. September 1933.

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THE PHYSCIAN'S LIBRARY

PRACTICAL HEMATOLOGICAL DIAGNOSIS: By O. H. Perry Pepper, M.D., Professor of Clinical Medicine, University of Pennsylvania; Assistant Chief of the Medical Clinic, Hospital of the University of Pennsylvania; and David L. Farley, M.D., Physician to the Pennsylvania Hospital, Philadelphia; and to the Cooper Hospital, Camden, N. J.; Associate in Medicine of the University of Pennsylvania. 562 pages, illustrated. Philadelphia and London W. B. Saunders Company, 1933. Cloth, $6.00 net.

A rather comprehensive book dealing with the many phases of hematology. It is well written, deals with the different topics in a concise manner, presenting nothing that is specially new. Topics covered deal with origin of blood, the red and white cell, hemoglobin, platelets, coagulation, blood groups and parasites in the blood. Part two deals with the study of blood in disease. One chapter is devoted to the hematology of infants. The book is valuable and deserves a place in the physician's library.—J.L.L.

URINE AND URINALYSIS: By Louis Gershenfeld, Ph. M., B.Sc., P.D., Professor of Bacteriology and Hygiene and Director of the Bacteriological and Clinical Chemistry Laboratories at the Philadelphia College of Pharmacy and Science. 272 pages illustrated with 36 engravings. Lea & Febiger, Philadelphia. Price, Limp Binding $2.75, net.

A very excellent book dealing with all phases of urine examination, urine formation and function of the kidneys. The chapter of pathological constituents of the urine is especially interesting and practical. The chapter on qualitative tests of the urine is complete, giving a detailed description of all the routine tests and the formula for the different solutions used. Apparatus required is also described. This book is recommended for those interested in the subject.—J.L.L.

SURGICAL CLINICS OF NORTH AMERICA: (Issued serially one number every other month.) Volume 13, Number 3. (Lahey Clinic Number, June 1933). 275 pages with 98 illustrations. Per Clinic Year (February 1933 to December 1933). Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1933.

In this number from the Lahey Clinic Dr. Lahey discusses his operative procedure for esophageal diverticula and for various gastric and duodenal lesions. He also presents very nicely the handling of the acute and subacute gallbladder, advising against too hasty surgery in these cases and suggesting cholecystostomy as the operation of choice to be followed later by cholecystectomy.

Dr. Lahey's complete discussion of the hyperthyroid patient is most valuable to both surgeons and general practitioners.

Dr. Howard M. Clute reports two interesting cases of regional ileitis—also discusses cystic duct stones after cholecystectomy and reports an interesting case of severe hemorrhage in obstructive jaundice. He further reports the great relief obtained from choledochoduodenostomy for patients with cancer of pancreas. He also has several contributions of great interest on the thyroid.

Dr. Richard B. Cottell discusses types of operation used in the Lahey Clinic for carcinoma of the rectum and illustrates with a number of case histories.

G. E. Haggart takes up the treatment of ununited fractures and also shows proper method of handling dislocation of the acromio-clavicular joint.

Dr. O. J. Menard suggests the use of the new drug dilaudid, a morphine derivative having powerful analgesic properties for severe cases of chronic intractable pain as in inoperable carcinoma.

There are many other instructive discussions by other members of the Lahey Clinic contained in this volume.—M.B.M.

INTERNATIONAL CLINICS: A quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest by leading members of the medical profession throughout the world; edited by Louis Hamman, M.D., visiting physician, Johns Hopkins Hospital, Baltimore, Md.; volume II. Forty-third series, 1933; J. B. Lippincott Company. Subscriptions accepted only for the calendar year. Issued quarterly. Price $3.00 per volume.

In this volume of International Clinics will be found a very instructive lecture on hyperinsulinism, a comparatively recently described condition, by Dr. Russell M. Wilder, Division of Medicine, The Mayo Clinic. His paragraphs on symptoms are given in detail, also a very complete study on diagnosis, differential diagnosis and treatment, both medical and surgical.

An interesting discussion of hypertension is given: Causes of Hypertension by John T. King, Jr., M.D., Johns Hopkins University School of Medicine; Clinical Manifestations of Arterial Hypertension by Ralph H. Major, M.D., University of Kansas School of Medicine; Prognosis of Hypertension by Dr. James E. Paullin of Emory University School of Medicine and Treatment of Essential Hypertension by Dr. Herman O. Mosenthal of the New York Post-Graduate Medical School.

Progress in Pediatrics by Lawson Wilkins, M.D., Baltimore, includes: Present Status of Epilepsy; Treatment of Hirschsprung's Disease, and two articles on Meningitis, all worth reading.

In fact, this volume of International Clinics is especially full of good articles and well worth ones time to read.—C.K.S.

INTERNATIONAL CLINICS. Volume I, Forty-third Series. March, 1933. Edited by Louis Hamman, M.D., visiting physician to Johns Hopkins Hospital, Baltimore. Octavo. 305 pages. 16 illustrations, 1 colored plate. Philadelphia, Montreal and London, J. B. Lippincott Company. Cloth, $3.00.

This volume contains articles on surgery, medicine, neurology clinical pathology and two reviews on recent progress in medicine and surgery. The articles are well written and cover the selected subjects well in a concise, readable manner. As a general review of some of the more recent investigations in all the branches of medicine it is a valuable contribution to medical literature.—C.E.J.

PERSONALS—NEWS ITEMS

Columbus: Dr. A. J. Revell has removed to Pittsburg.

Wichita: Dr. Thomas T. Holt has returned from a business trip to California.

Melvern: Dr. G. B. Kierulff has returned from a vacation trip to New Mexico.

Atchison: Dr. Charles W. Robinson has recently returned from a business trip to Atlantic City, Wyoming.

Newton: The Axtell Clinic, announces association of Dr. Arnold G. Isaac, formerly of Goessel.

Kansas City: Dr. Clay E. Coburn left September 16 for a three weeks' vacation in Boston, New York and Philadelphia.

Onaga: Dr. D. C. Malcolm, graduate of the University of Nebraska Medical School, has taken over the office of Dr. W. P. Wilson, deceased.

Kansas City: Dr. J. F. Hassig attended the annual conference of Secretaries of Constituent State Medical Associations held at Chicago, September 22 and 23.

Topeka: Doctors Lattimore, Brown and Kinnaman were in St. Louis on September 11 to confer with federal, state and city officials in regard to the encephalitis epidemic.

Topeka: J. C. Hofmann, M.A., Bacteriologist in charge of the Public Health Laboratory for the state board of health the past four years, resigned October 1, and will enter Harvard University.

Overland Park: Dr. Kenneth Carbaugh on September 10, was held up by two bandits; forced to treat one of them for gunshot wounds, robbed of $14, then gagged and left bound in his office.

Manhattan: Dr. J. D. Colt, representing the Kansas Medical Society and on the invitation of Secretary of Labor Perkins, attended the Conference on Malnutrition, held in Washington, D. C., October 6.

COUNTY SOCIETY NEWS

FORD COUNTY MEDICAL SOCIETY

Regular monthly meeting was held Friday evening, September 8, at Lora Locke Hotel. About 40 doctors were present from Southwest Kansas. Following a seven o'clock dinner an interesting scientific program was held. Dr. Morrison of Wichita gave a very interesting talk on "Transuretheral Prostectomy" giving history of operation, a brief summary of his own series of operations as well as those of other urologists.

Mr. Mac F. Cahal, full-time secretary of the Sedgwick County Medical Society gave a very informative talk on medical organization and public relations. A general discussion followed which served to show the great interest that is being manifest in this line of activity.

At a spring meeting of the Ford County Medical Society a communication was sent to the President of the United States protesting the opening of the Veterans' Hospital in Wichita as being unnecessary and unfair to the veterans themselves as well as to hard-pressed local hospitals. This hospital has not been opened as yet, and the secretary was ordered to send another communication to Washington calling attention to the fact that certain interests were now soliciting veterans to make application for hospitalization to show the need of a hospital in Wichita.

C. L. Hooper, M.D., Sec.-Treas.

LYON COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Lyon County Medical Society was held at Newman Memorial County Hospital, Tuesday, September 5, at 7:30 p. m., following the Society dinner.

Dr. J. B. Brickell read a very instructive paper on "Surgical Treatment of Pulmonary Tuberculosis," discussing the use of artificial pneumothorax and extra pleural thoracoplasty.

Dr. D. L. Morgan discussed the diagnosis of intra-uterine fetal death and presented an interesting case report of a "Monstrosity."

Dr. C. W. Lawrence reported three unusual cases; "Acute Encephalitis," "Cysts of the Omentum" and "Tubercular Peritonitis."

The case reports brought forth so much interesting discussion we are considering having them at each meeting.

First Lt. Paul Hansen of the local C. C. C. Camp was a visitor.

D. R. Davis, M.D., Secretary.

MCPHERSON COUNTY MEDICAL SOCIETY

The McPherson County Medical Society had a special social meeting at the McPherson County Hospital dining room, in honor of its four senior members, namely Doctors G. H. Matchette, D. C. Baer, M. N. Bremen and J. C. Hall, all of whom are over 70 years old. Due to sickness and bad roads Doctors Baer and Bremen, of Moundridge and Roxbury respectively, could not be present. The guest speaker of the evening was Dr. J. T. Axtell of Newton, who also is a senior member of the state society. Doctors Axtell, Matchette and Hall gave interesting reminiscences of early days practice of medicine. Miss Hammann, R.N., gave a fine reading. The hospital, in charge of Miss Duncan, R.N., entertained the group with a bountiful dinner at 7:00 p. m. before the program. Besides the three senior members, we had 13 other members and their wives present. All told, we had a delightful evening together.

A. M. Lohrentz, M.D., Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Shawnee County Medical Society was held in the Hotel Jayhawk, September 5. Meetings were not held during July and August.

Dr. R. B. Stafford, former Kansas physician, but more recently Commissioner of Health of the Virgin Islands, was the guest speaker and discussed: "Medical Practice in the Virgin Islands."

Doctors M. E. Pusitz and J. F. Casto were elected to membership.

A joint meeting of the Shawnee County Medical Society and the Kansas State Board of Health was held at a noon luncheon at the Hotel Kansan, September 13.

Doctors Lattimore, Brown and Kinnaman who had conferred in St. Louis on September 11, with federal, state and city officials in regard to the encephalitis epidemic gave an informal report of their observations.

Although but a short time had been available for telephone notification of the meeting, more than 85 members and guests were present.

EARLE G. BROWN, M.D., Secretary.

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DEATH NOTICES

BOARDMAN, EDGAR W., Parsons, aged 69, died September 22, 1933, of heart disease. He graduated from Hahnemann Medical College, Chicago, in 1884. He was a member of the Society.

FUNK, C. C., Smith Center, aged 59, died September 10, 1933, of obstruction of the mesenteric artery. He graduated from Central Medical College, St. Joseph, Missouri, in 1900. He was a former member of the Society.

HEWITT, AUGUSTUS EDDY, Walnut, aged 73, died September 5, 1933, of diabetes mellitus. He graduated from Rush Medical College in 1889. He was not a member of the Society.

KANSAS MEDICAL AUXILIARY

MRS. J. THERON HUNTER, Topeka
Chairman of Publicity

The Sedgwick County Medical Auxiliary has followed its usual custom of remaining inactive during the summer months. Hence, copy for this page is not easily obtained. After some careful thought, a resolve was made to ape the traditional bantam rooster who, purely by accident, came upon an ostrich egg. After considerable expenditure of effort, he rolled it across the barn-yard and up to the door of the hen house. Then he called all the hens and after they assembled he displayed the ostrich egg and said, "I do not want you to think for a moment that I am complaining, but I just want you to know what they are doing in other localities."

In Alabama there has been an increase of 90 per cent in membership. The Jefferson County (Alabama) Auxiliary has had for three years a loan scholarship of $300.00 to a Birmingham boy at Harvard.

The San Joaquin County (California) Auxiliary had their county health laws printed and distributed to organizations for use as study material.

Santa Barbara (California) County Auxiliary created a fund known as a student nurse fund, which provided prizes of $10.00 each for the outstanding graduates from their training schools for nurses in that county.

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Lancaster

The State Board of the California Auxiliary is again offering prizes for the best essays contributed in their contest on the subject, "The Doctor's Dilemma."

Delaware is so small they have only one county—hence, it is the state organization. It is active in the State Antituberculosis Campaign, and is quietly meeting the deceptive methods of cults and quacks and is supporting desirable legislation.

Colorado has instituted a successful story-writing contest on the subject of "Prevention of Disease Through Education."

Denver holds a Public Relations Day at which time the presidents of other health-minded clubs are entertained with health-promoting addresses.

The April Quarterly of the Kentucky Auxiliary carries on its cover, "Thistles and Tuberculosis—Rid Kentucky of Both."

Minnesota awarded five cash prizes in five different towns for the best essays on subjects assigned by the Minnesota Public Health Association.

Ramsay County (Minnesota) sponsored an essay contest for all high school students on the subject, "Tuberculosis and the American Youth."

Missouri continues to lead in the number of annual Hygeia subscriptions, the number being 562. In their essay contest more than two hundred essays were written.

Members of Richardson County (Nebraska) have designed and completed a kit acceptable to and accepted by the doctors working on charity cases during the winter.

So we just want to give you an idea of what is being done in other localities.

Contributed by—MRS. HAL E. MARSHALL,
Wichita, Kansas.

Doctor: Please Read

Advertising space in this Journal is worth what you and other members of the Society make it.

When you buy from firms who patronize this Journal you protect yourself against questionable products and increase the value of the Journal for its advertisers.

Advertisements of medicinal products are not accepted unless approved by the Committee on Pharmacy and Chemistry of the American Medical Association.

Not all desirable advertisers use space in the Journal. The majority of them will do so when they learn the present patrons secure good results.

THE JOURNAL OF
THE KANSAS MEDICAL SOCIETY

TRUTH ABOUT MEDICINES

In addition to the articles enumerated in our letter of August 2 the following have been accepted:

U. S. Standard Products Company—Antimeningococcic Serum Polyvalent, 30 cc. vial package. Diphtheria Toxin-Antitoxin Mixture, 0.1 L, 10 cc. vial package. Rabies Vaccine—U.S.S.P. (Semple Method) 7 syringe packages. Rabies Vaccine U.S.S.P. (Semple Method) 14 vial packages.

Foods

The following products have been accepted by the Committee on Foods of the American Medical Association for inclusion in Accepted Foods:

Mary Lou Flour (Bleached) (The Robinson Milling Company, Salina, Kansas).

Robin's Best Flour (Self-Rising) (Bleached) and Betty Jane Self-Rising Flour (Bleached) (The Robinson Milling Company, Salina, Kansas). (Jour. A.M.A., August 19, 1933, p. 605).

Blair's Certified Northern Type Flour (Bleached) (Blair Milling Company, Atchison, Kansas).

SMACO Hypo-Allergic Whole Milk Powder (S.M.A. Corporation, Cleveland).

Pablum (Pre-cooked) (Mead Johnson and Company, Evansville, Ind.)

Carey's Salt (Free Running) (The Carey Salt Company, Hutchinson, Kansas).

Propaganda for Reform

Hosept Not Acceptable for N.N.R.—The Council on Pharmacy and Chemistry reports that "Hosept" is the uninforming proprietary name under which the Homer Laboratories, Inc., markets a preparation claimed to be "The Ideal Cleansing Douche for Feminine Hygiene." No quantitative statement of composition appears on the package. According to the information presented to the Council, the product is claimed to have the following composition: Chloramine technical 28.671 per cent; sodium perborate 26.785 per cent; sodium chloride 42.857 per cent; alum-potassium 00.892 per cent; boracic acid 00.892 per cent; berberine sulphate (neutral) q.s. to color; oil of peppermint q.s. to odor. The firm states that Hosept should be used in the proportion of one teaspoonful to two quarts of warm water, "As an adjunct to office treatment of leucorrhea, gonorrhea and trichomonas vaginalis. Also as a cleansing douche." Its contraindications are not stated. No evidence, either clinical or experimental, has been submitted in confirmation of any of the manufacturer's claims. The Council declared Hosept unacceptable for New and Nonofficial Remedies because it is marketed with unwarranted claims under an uninforming name and because it is an unscientific mixture containing an excessive number of ingredients recommended for use in practically ineffective concentration. (Jour. A.M.A., August 5, 1933, p. 447).

Fortification of Foods Other Than Table Salt with Iodine or Iodine Compounds.—The Committee on Foods reports that the fortification of foods other than table salt with iodine or iodine compounds may lead to excessive iodine intake and endanger public health. Foods so fortified, other than table salt, will

Support in Cases of OBESITY

ABDOMINAL walls, when flabby or pendulous, require the support of a physiological garment with a low-cupped, form-front for security. Uplift should be provided without raising the flesh unduly through the body center, but with a slight flattening effect. The Camp Physiological Support, with the Camp Patented Adjustment, illustrated (Model No. 39)) functions in this way without improper constriction or discomfort.

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not be eligible for acceptance. (Jour. A.M.A., August 5, 1933, p. 448).

"Health Food" Claims and the Term "Healthful."—The Committee on Foods reports that the term "health food" and equivalent claims or statements to the effect that a food gives or assures "health" are vague, misinformative and misleading. No one food is essential for "health"; there are no "health foods." Statements of well established nutritional physiologic values of foods are permissible. The term "healthful," as used, commonly means that the food described corrects a possible nutritive deficiency or some abnormal condition in such a manner as actively to improve health. It incorrectly implies that the food possesses unique (or unusual) health-giving properties. "Wholesome" indicates that a food so described is sound, clean, fit for consumption and free of any objectionable qualities; it is appropriate for characterizing foods fulfilling these qualifications and should replace "healthful" as used in food advertising. (Jour. A.M.A., August 5, 1933, p. 448).

Grandma's Old Fashioned Molasses Not Acceptable.—The Committee on Foods reports that the American Molasses Company of New York submitted a "sugarcane syrup" called Grandma's Old Fashioned Molasses. The product is a "sugarcane syrup" and not a "molasses" according to the respective United States Department of Agriculture definitions and standards. The label statement "The natural vegetable and mineral properties, vitamins and high sugar content make Grandma's Molasses a healthful food for all," vaguely implies the presence of all the vitamins and minerals required for proper nutrition, which is inconsistent with scientific knowledge on cane sugar syrup. Radio advertising includes the statement "It is wise to include a food made with health giving molasses such as Grandma's at each meal," which is a type of misleading specific "health food" claim. A recipe booklet "Grandma's Old Fashioned Molasses Recipes" includes many similar misleading claims. The name and claims are inappropriate, misinformative and misleading. The manufacturer has not expressed willingness to correct the name and advertising. Grandma's Old Fashioned Molasses will therefore not be listed among the Committee's accepted foods. (Jour. A.M.A., August 12, 1933, p. 524).

The Glow of Life Fraud—Another aphrodisiac fake debarred from the mails.—"Glow of Life" is a nostrum that was put out by the Glow of Life Laboratories Company of Columbus, Ohio. The company was owned and operated by Frank J. Albert and his brother Ray J. Albert. Frank J. had no medical training or experience; Ray J. was a registered pharmacist. In March of this year, the Postoffice Department called upon the company to show cause why a fraud order should not be issued against it. According to the government's report, the Glow of Life Tablets consisted essentially of nux vomica and zinc phosphide, together with chalk and gum. The promoters had claimed that they also contained arsenic, gold, cantharides (Spanish fly) and laxatives. None of these were found. The government presented expert medical evidence to prove that these tablets would not restore "lost manhood" or cure sexual impotence or frigidity. It also brought out the fact that the ingredients of Glow of Life Tablets have been incorporated in other preparations sold under similarly fraudulent claims in cases wherein fraud orders have been issued against the promoters of such schemes; yet the Glow of Life concern claimed that their product was an original discovery! In view

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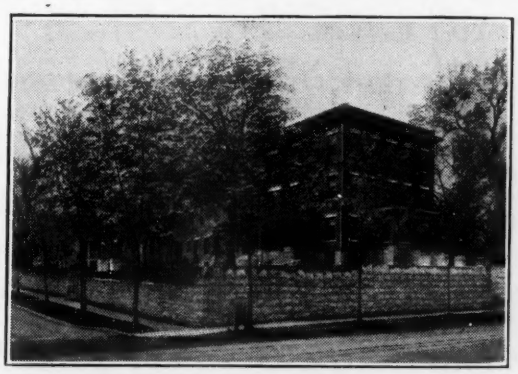

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of the findings, the Postmaster General on April 26, 1933, issued a fraud order closing the mails to the Glow of Life Laboratories Company. (Jour. A.M.A., August 5, 1933, p. 463).

Caritol and Carotene.—Advertising sent out by the S.M.A. Corporation contains claims for the value of carotene in the treatment of cataract. This claim is apparently based on the reprint of an article by Dr. T. H. Shastid (Carotene and Cataract, American Medicine, January, 1933). The only part of Dr. Shastid's paper dealing with this subject is a short paragraph in which he reports that in "three fairly advanced cases" of cataract he had "excellent results with Caritol." The author urges "other oculists to try out Caritol thoroughly," remarking that "whenever it does no good, it will do at least no harm." This may be true; but if it "does no good" the patient loses time and money to gain the increased visual acuity which, today, operative procedure can certainly give. It is, of course, misleading for the firm to base claims of the value of "Caritol" in the treatment of cataract on the casual report of three cases. The Council on Pharmacy and Chemistry has recognized no such claims for Carotene or for vitamin A as contained in fish liver oils or concentrates. In its advertising the firm stresses "primary" vitamin A as if it had some superior virtue. As a matter of fact its value apparently depends on its being converted into true vitamin A, which the firm attempts to belittle by the designation "secondary form." It is debatable whether one ought in fairness to refer to carotene as "primary vitamin A." The false implication is that carotene actually is a kind of vitamin A, whereas it is merely a mother substance or possible forerunner of the vitamin itself. (Jour. A.M.A., August 5, 1933, p. 465).

Some Effects of Overdosage with Viosterol.—Not long after the introduction of viosterol, tests made on experimental animals with large doses demonstrated that under certain conditions it can give rise to harm. Before long, however, it was learned that the range between therapeutic and toxic doses is large, so that the danger of overdosage now seems rather remote. Only when the intake of viosterol solutions exceeds the established medicinal dose a thousand times, or by some excess of that approximate magnitude, do the symptoms of disorder clearly manifest themselves. Medicine should welcome every new study of viosterol, particularly in view of the increasing tendency to fortify many common foods, such as milk and bread, with vitamin D. In recent studies by Reed and his co-worker at the University of Illinois College of Medicine, a significant increase in the resting, post-absorptive metabolic rate in animals has been observed following administration of large doses of viosterol. This stimulation of the metabolic rate has been difficult to explain, as it has not yet been quantitatively related to any other observed factor. Hypercalcification has been observed by many investigators. Recent researches indicate that the magnitude of the increase in calcium content is not correlated with the dosage but seems to depend on some undetermined individual factors. It was found that the phosphorus content, while widely variable among individual animals, was affected by the administration of viosterol in a much less constant manner, if at all. According to these studies the significance of deposition of calcium in the tissues cannot be evaluated at present. (Jour. A.M.A., August 26, 1933, p. 714.)

NEUROSYPHILIS

Clinical reports indicate that forty to fifty per cent of cases of early paresis show symptomatic improvement under Tryparsamide therapy. The treatment does not disrupt the patient's daily routine of life and is available through the services of his personal physician. The cost of Tryparsamide has been reduced. The present price to physicians is, 1 Gm. ampul 40 cents; 2 Gm. ampul 55 cents; 3 Gm. ampul 70 cents. Clinical reports and treatment methods will be furnished on request.

Tryparsamide

Mfg. by arrangement with The Rockefeller Institute for Medical Research — Patentee and Registrant

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Rahway, N. J.

The Plastic Appliance Institute.—During the past few years there have been advertised devices that the public has been led to believe could, by wearing, be made to change the shape of the adult nose. According to a report by the Chicago Better Business Bureau made in March, 1932, the Plastic Appliance Institute was a partnership affair organized in October, 1931, by Mr. Paul L. Bieles and Mr. K. Trilling. The alleged institute was started in Chicago but left that city and reopened in Sheboygan, Wis., where it continued to do business through the United States mails. The Bieles device was called a "Sculptron," and it was advertised under the claim that there were "no confusing head tapes"—although there were—and that it was "automatic" in its adjustment—although it wasn't. The device itself was an affair of aluminum and felt. There came with it, of course, the inevitable mystery element, a "preparing cream" which was called "Velvex." The device itself is said to have cost about 40 cents. It was sold at first for $6, the price as it became more difficult to find suckers, being gradually lowered to $2. In due time the postal authorities got around to the Plastic Appliance Institute, and on May 10 a memorandum of charges was furnished Mr. Bieles, who was called on to show cause why a fraud order should not be issued against the concern of which he was president. The Solicitor for the Post Office Department in his memorandum to the Postmaster-General recommending the issuance of a fraud order, brought out the fact that Mr. Bieles himself had admitted at the hearing that his device had been worn by Mrs. Bieles over a period of several months without producing any material or lasting change in the shape of her nose! It was further brought out that Bieles inaugurated his scheme after observing other enterprises of a similar character, particularly the one against which a fraud order had been issued by the postal authorities. The Postmaster-General on June 8, 1933, issued a fraud order against the Plastic Appliance Institute and its officers and agents as such at Chicago, Ill., and Sheboygan, Wis. (Jour. A.M.A., August 19, 1933, p. 621.)

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1. I was born at.....on the.....day of.....1.....

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(Public schools, high school or college)

.....located at.....from which I
(City and State)

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(Name of Medical College)

.....located at.....

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4. My state certificate was issued.....
(Name of State and date of license under which you are practicing)

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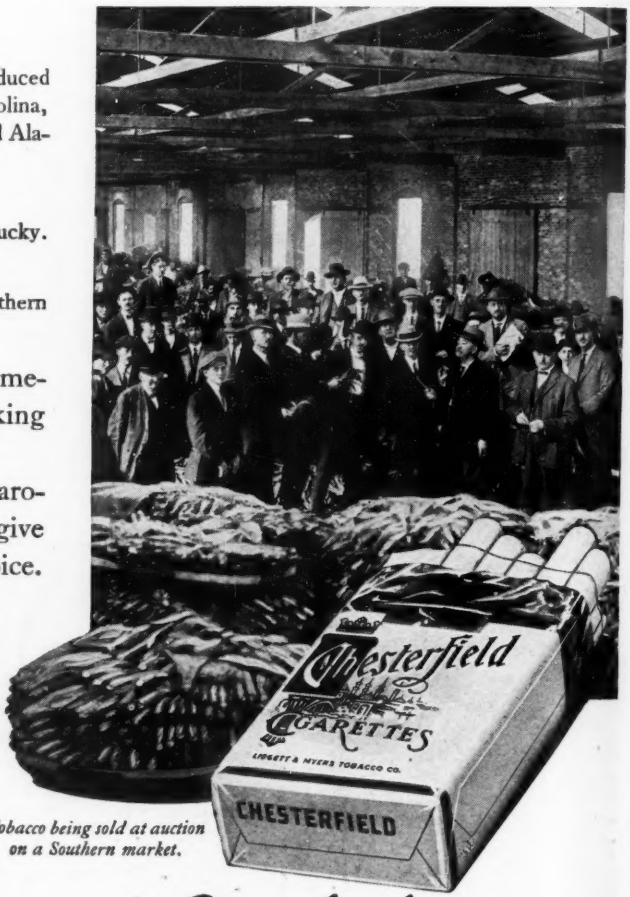

Tobacco being sold at auction on a Southern market.

Chesterfield

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